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QUARTERLY

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Mr. G. Maurice Morris, founder of the Meccanoman's Club.

END OF AN ERA

AN ERA in the annals of the Meccano hobby is shortly to come to an end with the imminent retirement from the Meccanoman's Club of Mr. G. Maurice Morris, the Club's founder, and Mr. John Pearce, his able Assistant. Though the activities of the Club will continue, these worthy gentlemen, who are advancing in years, feel that the time has now come for them to withdraw from the pressures of running the Organisation if they are to enjoy the leisures of their later years. Thousands of enthusiasts around the world will be sorry to see them go, but all will join with me in saying that they deserve the relaxation after all they have done for the Meccano hobby. We all wish them many happy years in retirement.

Nearly twenty years ago, Mr. Morris started to supply other Meccano enthusiasts with long-obsolete Meccano literature and parts. It was early appreciated that very few specimens of Meccano literature dating from 1901 were available and, when originals were unobtainable, photo-copies were supplied.

As time went on, what had started as a hobby developed into a business and it was quite impossible for Mr. Morris to continue alone. In 1960 Mr. John Pearce joined him and took over the bulk of the work, but soon he, too, was over-whelmed with the sheer mass of activity. So a small staff was built up and The Meccanoman's Club was formed, operating from Abbey Wood in London. Since then over one hundred different Meccano publications have been produced by the Club, beginning with 'The Meccanoman's Guide' and ranging through 'The Meccanoman's Journal', no less than 56 Modern Supermodel Leaflets and 'The Development of the Meccano System', a supplement to which is now being produced.

From 1st October this year, with the retirement of Mr. Morris and Mr. Pearce, all Club activities will be sponsored by Mr. Geoff Wright of M. W. Models, 165 Reading Road, Henley-on-Thames, Oxon RG9 1DP. Thus, no correspondence can be dealt with at the Club's present postal address after 30th September. From then onwards, all enquiries should be addressed to M. W. Models. Mr. Wright assures us, incidently, that, as far as possible, all Meccanoman's Club publications will be available indefinitely, though perhaps in up-dated form. Long may they continue.

A RARITY REPRINTED

Talking of Meccano literature, one of the rarest items ever published was a little book entitled 'Frank Hornby, The Boy Who Made $1,000,000 with A Toy', written by M. P. Gould. It was published back in 1915 by Meccano's short-lived American subsidiary, Meccano Co. Inc. of New York, and it was the only contemporary publication dealing with Frank Hornby's early struggles. Comprising some 142 pages, it included several plates showing views of the original factory, together with engravings illustrating some early Meccano models.

The book was available only in the U.S.A. and very few copies found their way across to the U.K. This, coupled with the unique nature of the book, has prompted New Cavendish Books to re-issue the work, taking the opportunity to add an illustration of Frank Hornby and a box top from his original 'Mechanics Made Easy' set as marketed by Elliott & Hornby in 1902. It will be available next month (August), priced at £1.20, and enquiries should be addressed to the New Cavendish Street Book Company Ltd., 36 New Cavendish Street, London W1M 7LH. In enquiring, we should appreciate it if you would mention that you read about the book in the MMQ!

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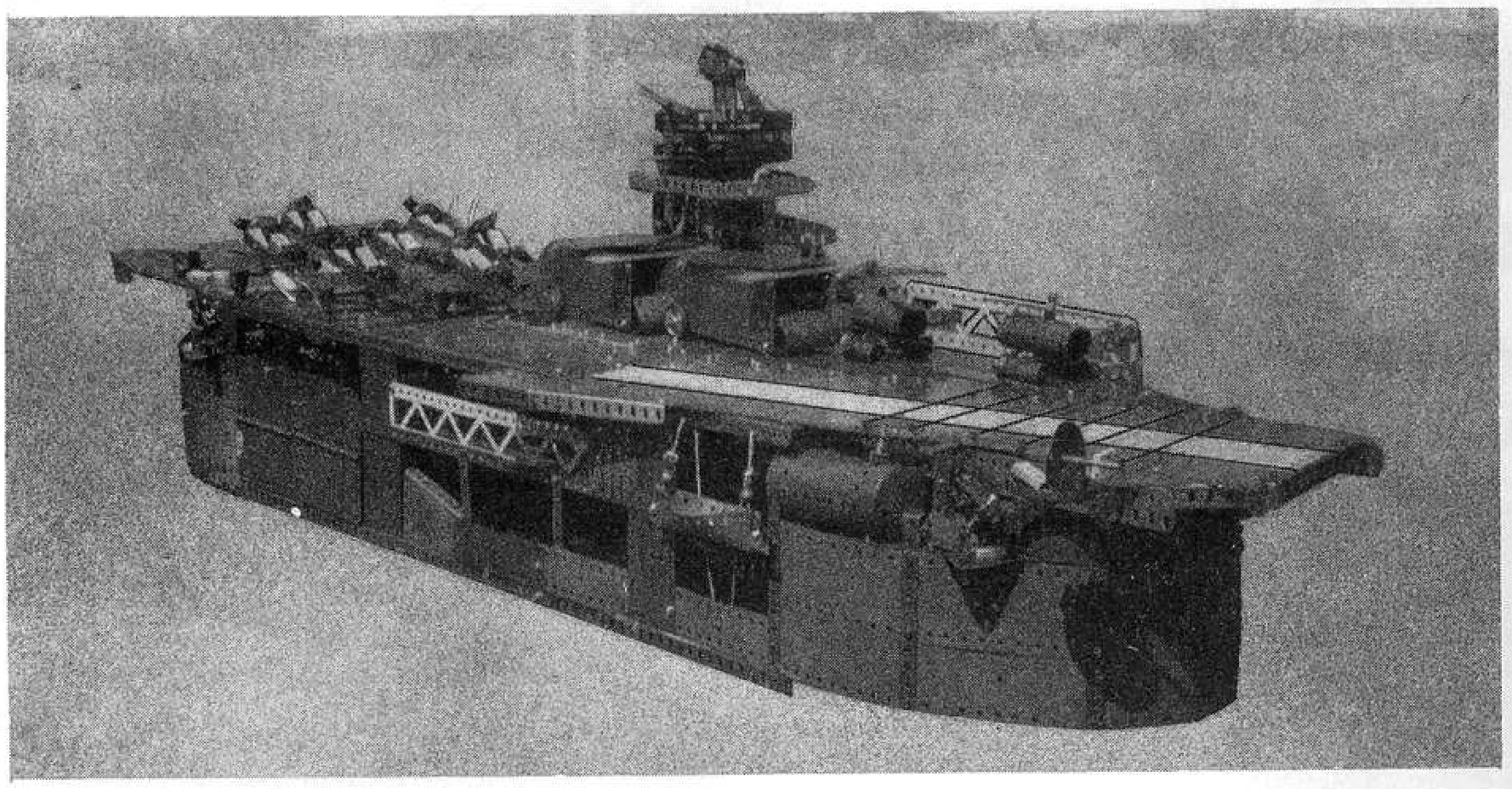


HMS 'ARCROYLE'

A freelance Aircraft Carrier built and described by John C. Roberts

"Enemy Aircraft at Oh-Nine-Oh!"

"Action Stations!"

"Captain to the Bridge!"

"Deck Crews – prepare 'A' Flight!"

"Aircrew – Scramble!"

The crewroom falls silent for a second, then bursts into a hubbub of noise as pilots snatch up their kit and head for the door, galvanised into activity by the bullhorn roar of the Tannoy.

On deck an organised whirl of movement is apparent, as the last plane of 'A' Flight comes level with the flight deck and is jockeyed to its catapult position by a bustling little yellow tractor.

The pilots leap to their cockpits as the engines roar to life. Starter trolleys retreat, and launch crews duck away beneath the wings, snatching the chocks as they go, and precisely as the last hatch is slammed shut the Tannoy is heard above the screaming engines –

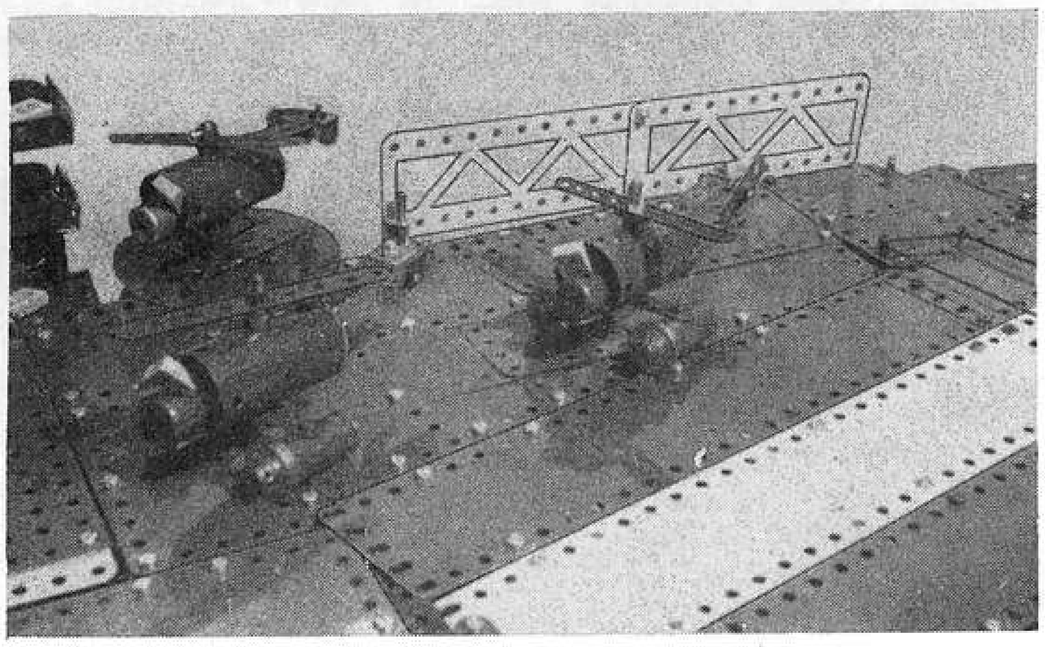
"Launch Aircraft!"

Just forty seconds and three vicious little fighters are airborne, the sun glinting on the cruel edges of their wings as they turn, climbing fast, over our heads. A smooth, efficient launching, but no more than one would expect from a carrier the size of the 'Arcroyle'.

All in all she measures a magnificent five feet three inches from stem to stern, about nineteen inches in beam, and the tips of her antennae are about two feet above her 'waterline'. She packs quite a punch too – four flights of fighter-bombers, a helicopter squadron and also troop carriers with infantry and a 25-pounder gun-battery.

The helicopters, amphibious of course, can be seen in picture 2 along with the old 'Brickplayer' bricks I used to use to represent crew before the days of Airfix figures. Picture 3 shows the troop transports with their cargo. Working lifeboats can also be seen in this photo, ready to be winched down at the flick of a switch. The landing radar and one of the multiple pom-pom anti-aircraft guns can be seen also, to the right.

Fig. 2



BELOW DECKS

Looking below decks (picture 4) we see the repair and maintenance bay on the first deck and glimpse under that, the mains transformer that supplies power and lighting to the whole ship.

The main drive is an E15R motor which can, through reduction gearing and double chain drives, push this

half-hundredweight collection of Meccano parts along with ease. The 'Arcroyle' is quite manoeuvrable as the whole drive unit is steerable and, being mounted in the stern, gives a realistic 'ship's steering' effect and enables her to turn in almost her own length.

MAIN FRAMES

Her main frames consist of a stout box of Angle Girders, three feet long, in three layers which carry the flight deck and the two storage decks. These are separated by 3½" Flanged Plates and Double Angle Strips, which leave ample headroom, (or should I say 'prop-room'!) for her aircraft. Most of these are built on a simplification of the time-honoured racing seaplane design, which I first recall seeing in my No.1 Instruction Manual way back in 1953!

The main box of Girders supports the catapult deck at the front on a cantilever frame. The catapults will, with the help of some stout elastic, propel planes off the deck with realistic speed, demanding the catching skill of a Cowdrey at first slip to avoid damage to plane or owner!

At the rear, the angled flight deck system lies over a heavy Girder cage containing the steerable drive and motor and the stern is shaped around this from Flexible Plates and Curved Strips. The model incorporates all the essential features of a real carrier including a working lift between its three decks (driven by an additional E15R) and full approach and landing equipment. The approach radar and lights are faithfully modelled and the landing deck (photo 5) has six arrester wires which engage hooks (Pawls) on the landing aircraft. In photo 2 can be seen the 'crash net' which can be swung across the deck in emergencies. The decks each have their own fire and crash tenders and a crane is provided to salvage aircraft from the water. The lifeboats also raise and lower realistically.

ACK–ACK BATTERIES

In addition to her own aircraft, 'Arcroyle' can be defended by her several ack-ack batteries which are spread around the ship on the first storage deck level. These are built to represent multiple-barrel pom-pom and Bofors guns.

Below decks, the amount of aircraft storage space is quite generous and took my complete collection of plates in flooring. These cavernous hangars hold the full complement of about twenty planes with ease, in addition to containing the maintenance bay and electrical equipment.

I built 'Arcroyle' towards the end of 1969 and dismantled her early in the next year for the next model, which was, as I remember, a demonstration model of the Starfighter interceptor – but that's another story. 'Arcroyle' in fact followed in the wake of a much smaller and more primitive model some years earlier. In the last couple of years I have re-equipped completely in the yellow and silver colour scheme, greatly expanding my outfit in the process, and now the aircraft carrier bug is biting again! The next in the line is already on the drawing board, this time to be modelled on a real prototype, with many more operating functions, and to be somewhat larger.

Delicate negotiations are in hand at this very moment for suitable 'dock' space. You know, I've always said how nice the sideboard and the bookcase would look end-to-end .....!

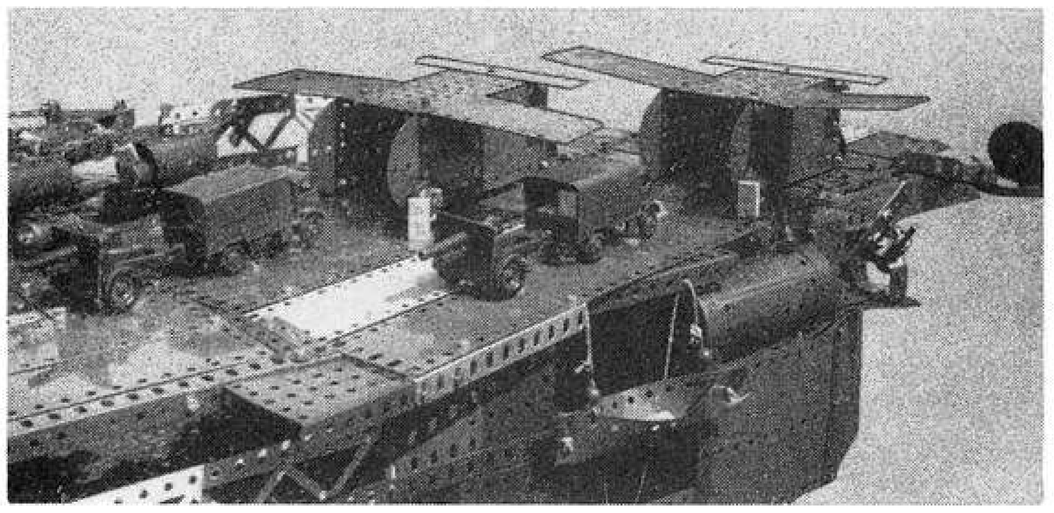
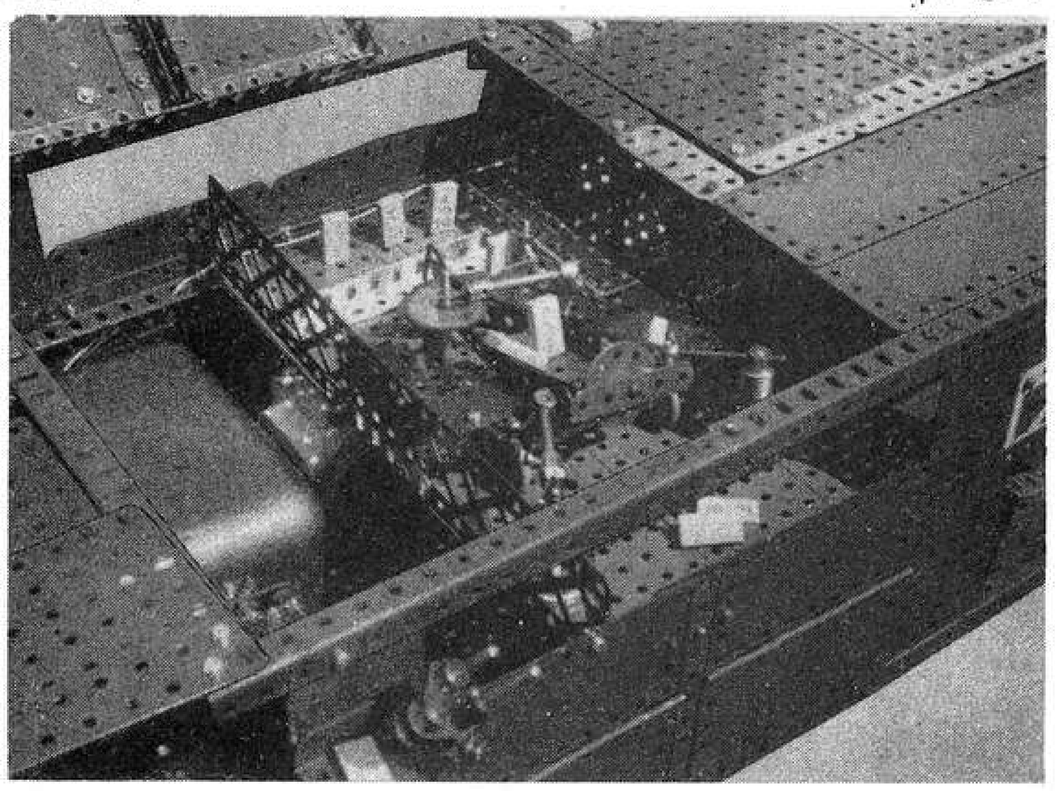
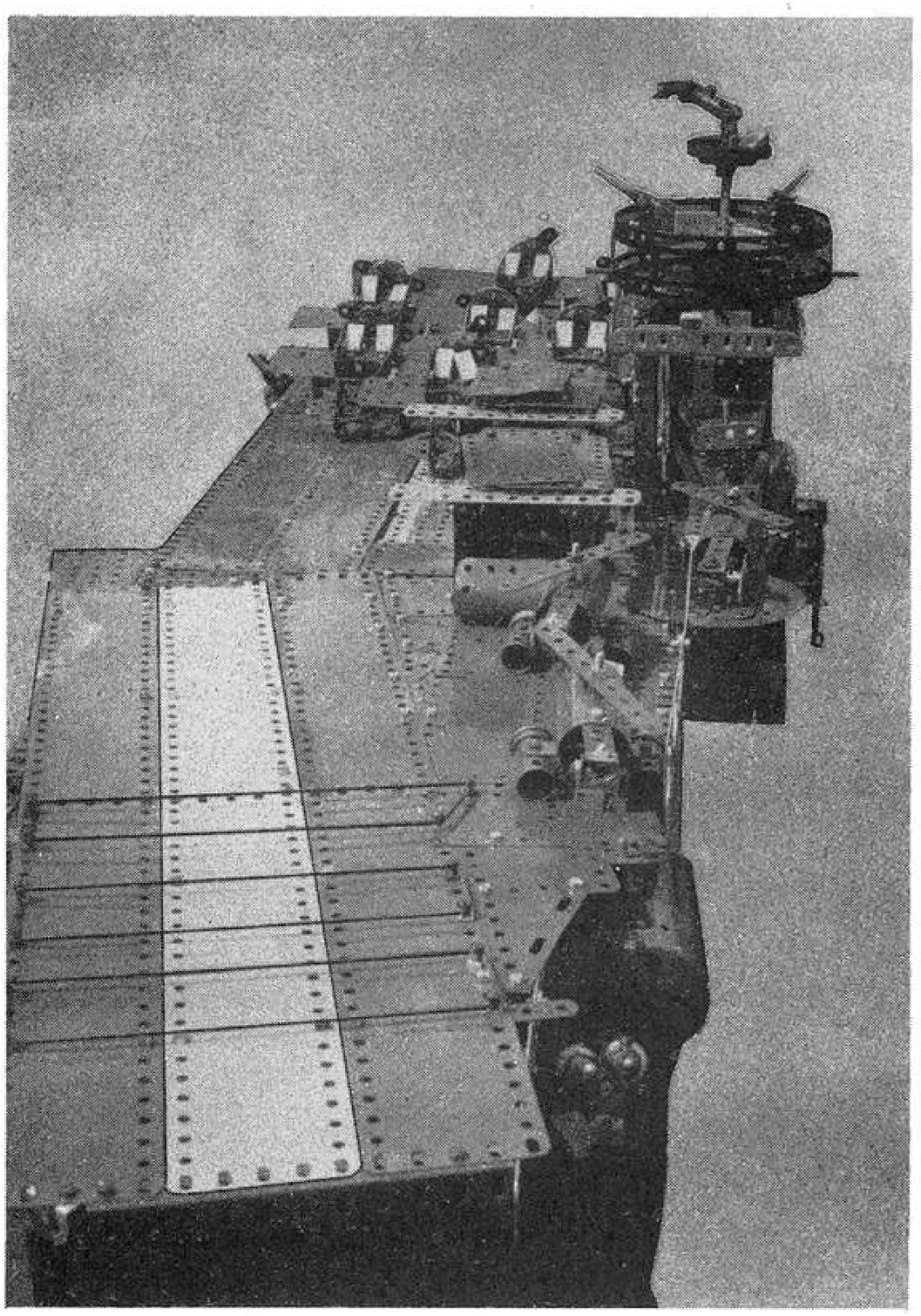


Fig. 3 ↑ ↓ Fig. 4



↓ Fig. 5



AMONG THE MODEL-BUILDERS

with "Spanner"

A section for readers from readers

A YEAR OR two ago in these pages we featured a Hydraulic Ram Unit designed by Mr. Pat Lewis, former model designer at Meccano and now Landlord of the Hart's Head Hotel, Giggleswick, Settle, Yorkshire. Since then, we have had very little contact with Pat as his duties at the Hotel have taken up practically all of his time, so we were particularly pleased to see him earlier this year when he dropped in on us one day in Spring. The purpose for his lightning visit (besides a desire to see our smiling faces!) was to show us an extremely interesting mechanism he had developed – a heavy-duty Epicyclic Load Clutch designed to avoid damage to large display models should they become "jammed".

The value of a load clutch in any appropriate powered model is self-evident. If a model jams – and we all know this can happen, either from an internal or an external cause – the drive must be cut off, otherwise untold damage could result. The motor could burn out, for instance, or, if this was powerful enough to keep running, a weaker part of the model might give way and the whole thing might become 'churned up'. Having an operator on hand to turn off the motor when something goes wrong is one solution, but, in an unattended display model, you need something else, such as a load clutch. In simple terms, this is a mechanism which, under normal conditions, will transmit a through drive, but which will slip if anything happens in the model to cause excessive drag. Thus the motor will continue to operate without burning out, but the drive to the damaged model will be cut. A simple friction clutch would suffice for many smaller models, but, for a heavy model, a heavy-duty unit is desirable and Pat Lewis's mechanism is one such example.

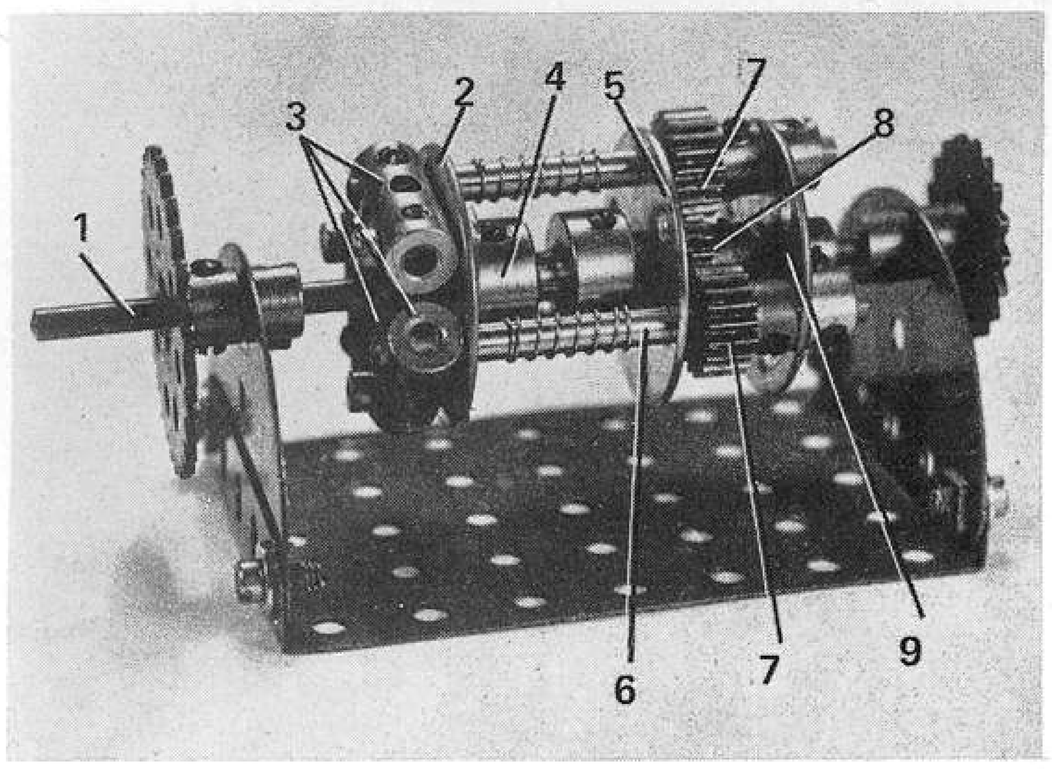
Fixed on the input shaft 1 of the unit is a 6-hole Bush Wheel 2, to the face of which three Couplings 3 are each secured by a ½" Bolt. The shaft projects half-way into the bore of a Socket Coupling 4 which is locked to the boss of the Bush Wheel. Another 6-hole Bush Wheel 5 is held in the other end of the Socket Coupling and journalled loose in the boss of this Bush Wheel is the output shaft which also projects half-way into the bore of the Socket Coupling.

Three 1" Rods are now fixed one in the end transverse bore of each Coupling 3, the inner end of the Rod projecting through the face of the Bush Wheel and part-way into a Rod Connector 6. Carried in the remainder of each Rod Connector is a 1½" Rod, projecting through the face of Bush Wheel 5. Three ½" Pinions 7 are now fixed one on each of these 1½" Rods, a fourth ½" Pinion 8 being fixed on the output shaft against Bush Wheel 5. A third 6-hole Bush Wheel 9 is then slipped, loose, on the output shaft and arranged with the 1½" Rods projecting through the appropriate holes in its face. Collars are added to the Rods to hold the Bush Wheel in place.

In operation, the action of the Rod Connectors gripping the 1½" Rods prevents the Pinions from turning and thus the whole unit revolves to provide a normal straight-through drive. If sufficient drag is applied to the output shaft, however, the Rods will revolve in the Rod Connectors, bringing the epicyclic motion of Pinions 7 and 8 into play. As Pinion 8 is loose on the output shaft, this effectively breaks the drive, while allowing the motor to continue running. The strength with which the Rod Connectors grip the 1½" Rods determines the drag required to bring the Clutch into operation, and note that lubricating oil should *not* be applied to these Rods. The grip can be strengthened to allow for heavier loads by fitting Compression Springs over the Rod Connectors, as Pat has done in the demonstration unit illustrated here. The unit is shown, incidentally, fitted with input and output drive Sprockets and mounted in a supporting framework, but the following parts list applies purely to the basic unit as described.

PARTS REQUIRED

2-16a	3-24b	3- 59	3-120b
3-18a	4-26	3- 63	1-171
3-18b	3-37a	3-111a	3-213

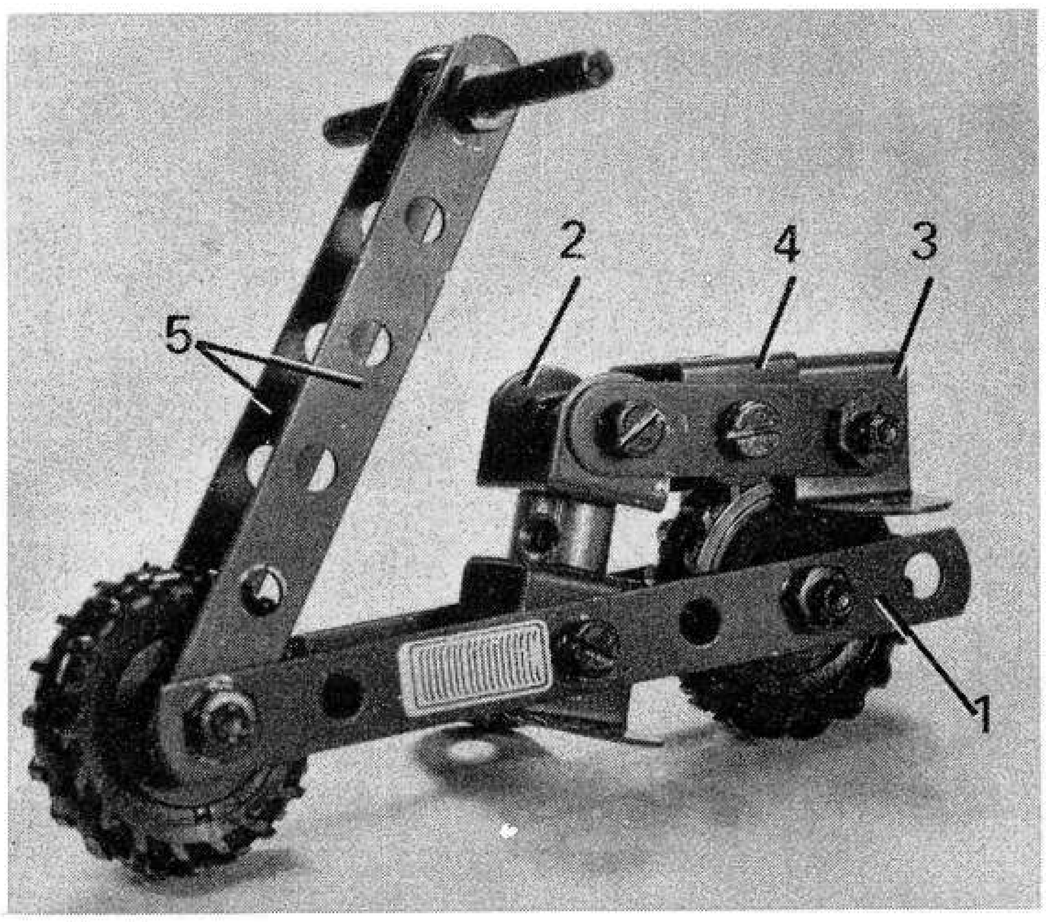


A heavy-duty Epicyclic Load Clutch designed by Mr Pat Lewis, former Meccano model designer at Binns Road and now Landlord of the Harts Hotel, Giggleswick, Yorkshire. Although Pat no longer has much time for model-building because of hotel duties, he still qualifies as a true Meccano enthusiast.

COMBAT MOTOR BIKE

On a totally different subject, now, earlier this year I received a little package from 10 year-old Colin Whitehouse of Brierley Hill in West Midlands and, when I opened it, I was delighted to find a captivating little Motor Bike nestling therein. Colin explained that he had received a Combat Multikit for his birthday a little earlier and, from it, he had himself designed and built the little bike. Not only was I captivated by the model, I was also very impressed with Colin's ability and I am therefore particularly pleased to feature his model here.

The frame consists simply of two 3½" Narrow Strips 1, connected to-



Earlier this year we received a small parcel in the Post from young Colin Whitehouse of Brierley Hill, West Midlandsand, when we opened it, we found this delightful little Despatch Rider's Motor Cycle built by Colin from a Combat Multikit. Considering Colin is only 10 years old, we think he has done an excellent job!

gether in the middle by a Double Bent Strip, the lugs of which also serve as the footrests. Secured by a 3/8" Bolt to the top of the Double Bent Strip is a Collar and a Double Bracket 2, the lugs of which are extended rearwards by two 1½" Narrow Strips. Bolted between these Narrow Strips are a Double Bracket 3 and another Double Bent Strip 4. The rear wheel is a ½" Pulley with Tyre on a ¾" Bolt held by Nuts in the second holes from the rear ends of Strips 1.

A ½" Pulley with Tyre also serves as the front wheel, this being mounted on a ¾" Bolt held by Nuts in the front end holes of Strips 1. In this case, however, the Nuts also hold two 3" Narrow Strips 5 on the Bolt to serve as the front forks. Held by Nuts in the upper end holes of these Strips is a 2" Screwed Rod which serves as the handlebars and the finishing touches are supplied by two grille stickers from the Combat kit attached to strips 1, as shown, to represent engine detail. It remains for me only to add my congratulations to Colin for a simple, yet very effective little model.

PARTS REQUIRED

1- 59	4-428	2-442	2-447
1-404	4-430	2-445	2-449
22-427	1-433	2-446	1-450
			2-452

MECCANOGRAPH HINTS

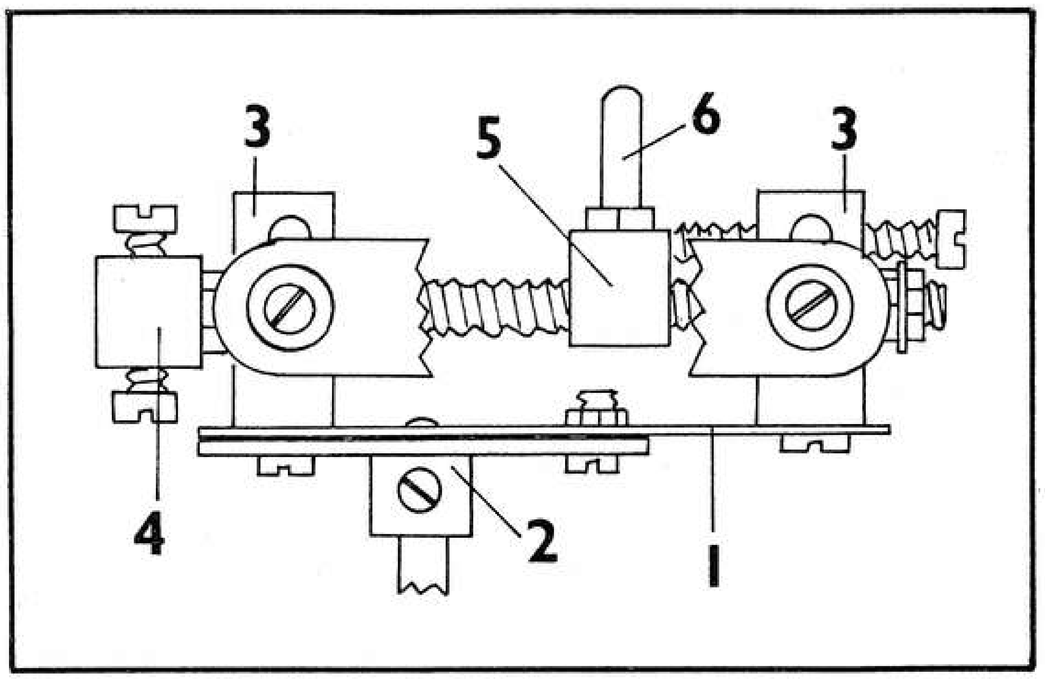
In the April MMQ we featured a Meccanograph designed by Mr. Andreas Konkoly of Hungary. Seeing this, Mr. Bert Halliday of London, who is probably the U.K.'s leading Meccanograph expert, was prompted to send in a number of useful tips of his own which are of particular relevance as I know that many readers have built, or are in the process of building, Mr. Konkoly's model.

"Studying the photographs of the 'Easter Meccanograph'," says Mr. Halliday, "Reminded me of a small discovery I made some time back which eliminates a lot of 'play' in Mr. K's machines when he uses Girder Frames as slides. Even with the G.F's. pushed as close together as possible, there is still a fair amount of excess space round the Axle Rod. Two Narrow Strips (which, contrary to popular belief, are *not* the same width as the long edge of a G.F.) set ½" apart can be adjusted to provide a space between which an Axle Rod will slide with an absolute minimum of 'shake'. Indeed, the slight extra width of the Narrow Strip allows it to grip the Rod tightly, if needed, and the Strips can also be adjusted to a slight 'V' shape to provide a stop for the Rod somewhere along the slide, if required."

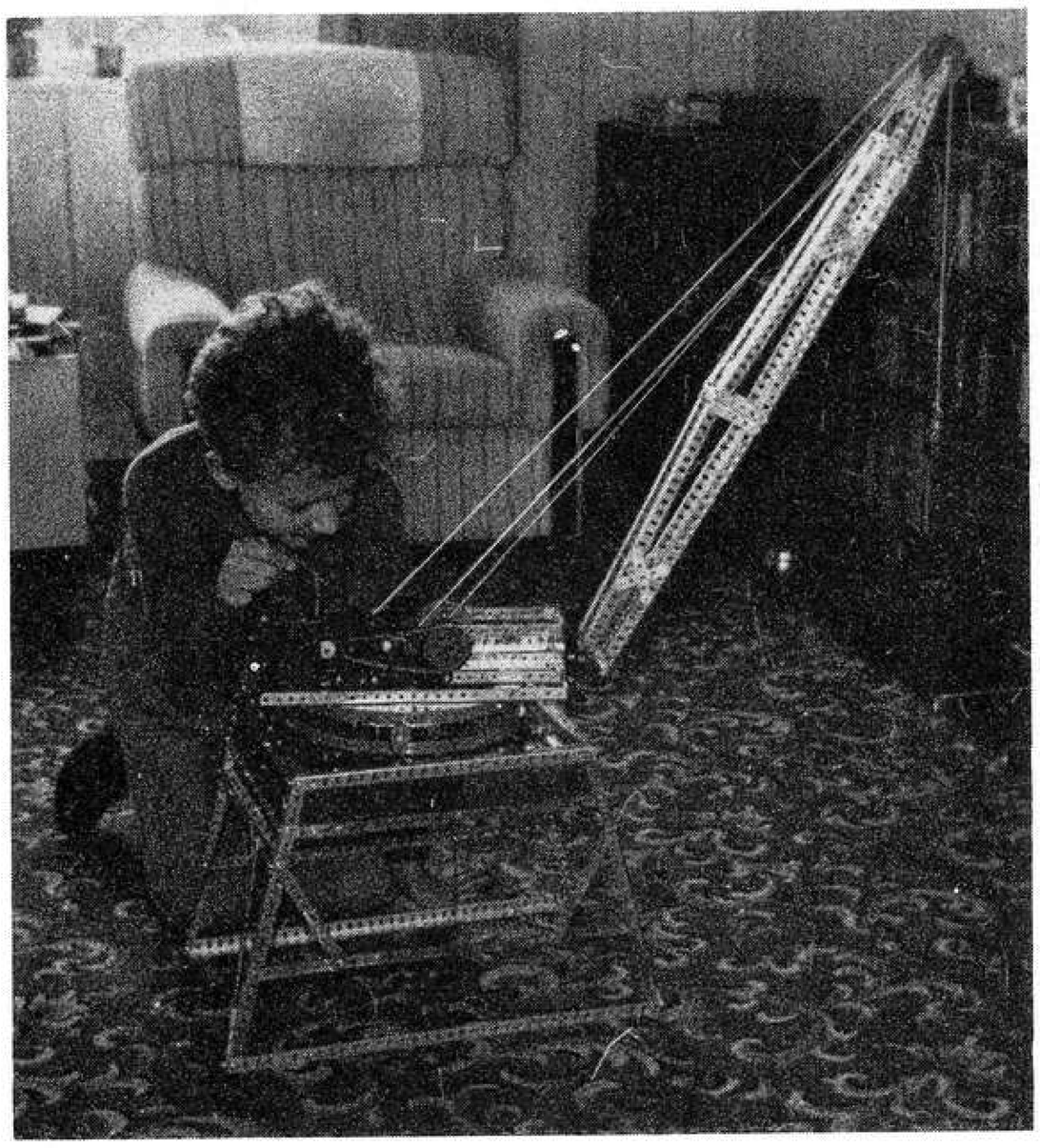
On another point, while agreeing that a glass surface for the designing table is the best for true flatness, Mr. Halliday has discovered a useful alternative, bearing in mind that many people do not like to work with glass for obvious reasons. "When I was scratching around for something that would allow a design table with no encumbrances on top," he says, "I settled for a piece of 10-gauge Dural which I was able to drill and tap to Meccano thread and bolt direct to a 3" Sprocket Wheel, with electrical Thin Washers between the two to allow for boss projection. The whole thing runs very true, horizontally, the paper being retained in place by small office-type clips. However, even though I now had a very level table surface, something was lacking and, after further experimenting, I discovered a section of vinyl floor tile, stuck to the table, provides a really superb writing surface beneath the paper – particularly if a fine-point pen is being used. In fact, I now consider that, whatever material is used for the actual table, a vinyl tile under the paper is a real 'must'."

Mr. Halliday goes on to say that, "Studying Mr. K's idea for an adjustable-throw mechanism as attached to Pulley 15 in the 'Easter Meccanograph', I feel this falls down slightly in that a positive repeat register cannot be guaranteed if required, due to the central Coupling being only a 'slide fit' on its Rods." Mr. Halliday has supplied us with details of an Adjustable Throw Crank (see accompanying diagram) which performs basically the same functions as Mr. Konkoly's mechanism but, being screw-adjusted, it allows exact re-register of position.

Actually, Mr. Halliday had previously supplied us with a number of other Meccanograph mechanism ideas not directly associated with improvements to Mr. Konkoly's machines, all of which are of great potential interest. Unfortunately, however, we do not have the space available here to pass on the ideas, but I hope to include them in a future issue.



Rough Sketch of an Adjustable Throw Crank designed for Meccanograph use by Mr. Bert Halliday of London. Fitted to the Easter Meccanograph featured in the last MMQ, it allows a positive repeat register when drawing patterns. Mr. Halliday also gives some other useful hints



Although not mentioned in the accompanying article, this picture shows 11-year-old Martin Cock of Rugby making final adjustments to his excellent 'free-lance' model of a Dockside Crane which he built in only one week. Fully operational, it is powered by two Motors-with-Gearbox, one driving the slewing motion and the other the lifting cords. A fine model and a fine achievement for such a young enthusiast.

Continued from previous page.

But, to return to the Adjustable Throw Crank, a 2½" Strip 1 is bolted to a 1½" Sprocket Wheel 2, the Strip projecting 1" beyond the Sprocket and being packed from it by electrical Thin Washers to lift it clear of the Sprocket Boss. A vertically-positioned Threaded Coupling 3 is secured to each end of the Strip, the Couplings' centre smooth bores being lined up. Two standard Bolts are fitted into the transverse bores of a Threaded Boss 4 to meet in the centre, then a 3" Screwed Rod is screwed into the central bore of the Boss until it meets the Bolts, after which it is locked in place by a Nut.

An electrical Thin Washer is fitted over the Screwed Rod, then the Rod is journalled through the centre smooth bores of Threaded Couplings 3, at the same time fitting a second Threaded Boss 5 to the Rod to locate between the Couplings. Screwed into the centre bore of this second Threaded Boss, from the end opposite to the transverse bores, is a Threaded Pin 6. Electrical Washers are added to the projecting ends of the Screwed Rod, then the Rod is lock-nutted in place, with *Hexagonal* Nuts, so it is free to revolve in the Threaded Couplings, but without any shake.

To the centre tapped bores at each side of the Threaded Couplings two 2½" Strips are bolted, using Set Screws with a Washer under their heads to ensure that they clear the Screwed Rod. These Strips provide side support for the Threaded Boss against the thrust of the mechanism as a crank, but the Threaded Boss still needs an anchor against the push and pull movement, so a long Bolt is screwed into the top tapped bore of the extreme Threaded Coupling and adjusted to bear against the Threaded Boss when this is set for the desired amount of "throw". However, if the throw is so reduced that the long Bolt will no longer reach the Threaded Boss, a 2" Screwed Rod can be used in its place – though care should be taken to ensure it clears the Crown Head of the Meccanograph if this is in close proximity.

The connecting rod to the sliding table fits over the Threaded Pin and, if Washers are needed to lift the con. rod clear of the top of the Threaded Couplings, the ¾" Washers are the best type to use. Hexagonal Nuts are used for the lock-nutting as the old square type tend to foul the long Bolt used as a locking device, and electrical Washers have the advantage of being of a smaller overall diameter than the standard Washer and they provide clearance between the 2½" Strips which is not obtainable with the standard Washers.

CENTRE-DRIVE DIFFERENTIAL

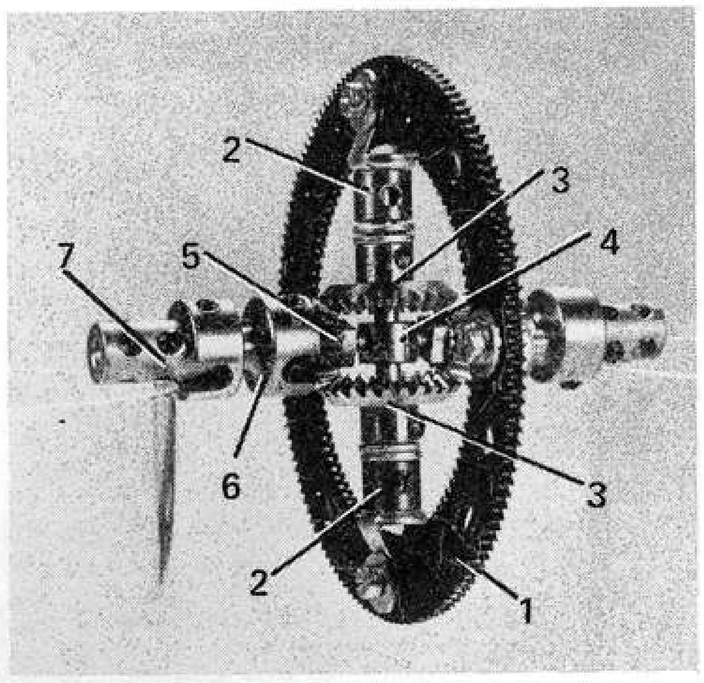
In introducing our final offering this issue, it is necessary to refer back to the "Model-builders" feature in the January 1974 MMQ. There we featured a number of Differential mechanisms designed by Mr. James Grady of Dundee, one of which incorporated a centralised input drive. Previously, all other Meccano differentials had featured an off-centre input drive – unlike a real vehicle differential – and this lack of realism was a source of minor annoyance to Mr. Grady. His comments at the time, quoted in the Magazine, set Paul Smith of Henley-on-Thames (and Assistant Editor of the "Meccano Engineer") thinking and the result of his deliberations is the neat central-drive Differential illustrated here.

The input drive is received by two Gear Rings 1, bolted face to face as shown. Two End Bearings 2 are secured to opposite sides of the Gear Ring and in these is fixed a 2" Rod on which two 7/8" Bevel Gears 3 are free to revolve. Each Bevel is spaced from the boss of the nearby End Bearing by two Washers, while centrally fixed on the Rod is a Collar 4, secured by two Long Threaded Pins which are screwed into the transverse bores of the Collar at right-angles to the plane of the Gear Rings. Revolving, free, on each Threaded Pin is the half-shaft which is built up from a ½" Bevel Gear 5, held in one end of a Socket Coupling 6, in the other end of which a Coupling 7 is held. Bevels 5, which of course mesh with Bevels 3, are spaced as necessary from the Nuts of the Threaded Pins by electrical Thin Washers. The half-shafts can be extended as required by Rods fixed in the outer ends of Couplings 7.

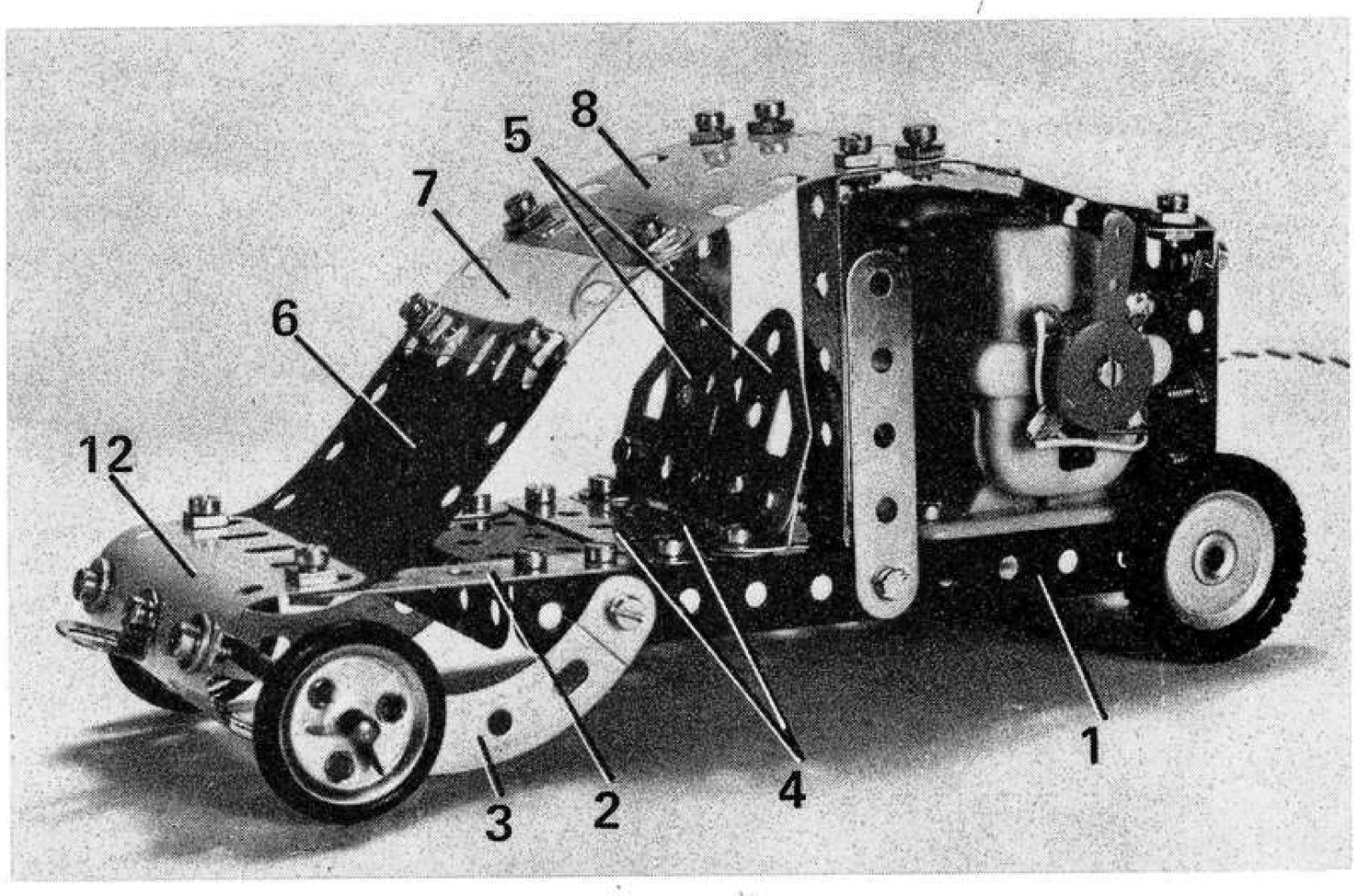
PARTS REQUIRED

1-17	4-37c	2- 63	2-166
2-30	12-38	4-111c	2-171
2-30d	1-59	2-115d	1-180
			4-561

A centre-drive Differential designed by Paul Smith of Henley-on-Thames Assistant Editor of the "Meccano Engineer".



Take one No.3 Set (says 'Spanner') Add an Electric Motor, then build this.....



CANADIAN FUNMOBILE

EMPHASISING THE INTERNATIONAL appeal of Meccano, we feature here a little 'buggy' model, slightly modified from an original design by Mr. Luc Levasseur of Drummondville, Quebec Province, Canada. Produced from a No. 3 Set, plus a 4½ volt Electric Motor, it is fun to build and fun to operate – hence our title of 'Funmobile'! Before describing construction, however, we would like to stress that we modified Mr. Levasseur's design, not to improve upon it – it was fine as it was – but to enable the model to be built from the No. 3 Set. Mr. Levasseur had not designed it for any particular outfit.

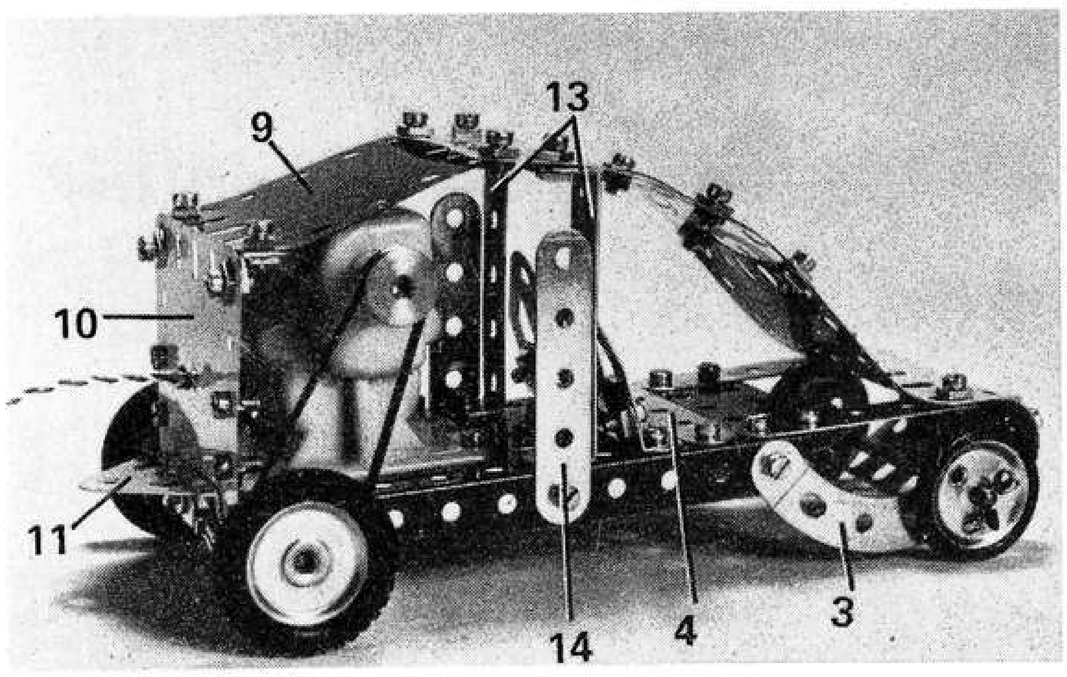
As regards construction, the chassis consists of a 5½" x 2½" Flanged Plate 1, to which a 4½ volt Reversible Motor is bolted, transversely, in the position shown. The chassis is extended three holes forward by two 2½" Strips 2, fixed to the top of the Flanged Plate, while two 2½" Stepped Curved Strips 3 are bolted to the side flanges of the Plate, through their second holes, to serve as front axle supports. Seating is provided by two 2½" Strips 4 bolted to the top of the Flanged Plate across the third and fourth rows of holes, the Bolts fixing the rear Strip in place also securing two Angle Brackets, bent to a slightly obtuse angle. To serve as backrests, two overlapping Flat Trunnions 5 are bolted to the spare lugs of these Angle Brackets.

The roof, windscreen and bonnet can be assembled as a separate unit, the parts required being, in order from the front, a 2½" x 2½" Plastic Plate, 6 a 2½" x 1½" Transparent Plastic Plate 7, a 2½" x 2½" Flexible Plate 8 and another 2½" x 2½" Plastic Plate 9. The Plates are each overlapped one hole, the joining Bolts being first fitted with Nuts to serve as washers.

Bolted vertically to the rear flange of Flanged Plate 1 is a 2½" x 2½" Flexible Plate 10 overlayed along the lower edge with a Trunnion 11. The rear edge of the roof unit is then attached to the top of Flexible Plate 10 by means of Angle Brackets, and the front of the roof unit is sandwiched between Strips 2 and a U-section Curved Plate 12, to which an Angle Bracket is centrally bolted. A central support for the roof unit is provided by two 2½" x ½" Double Angle Strips 13, positioned as shown and flanked by two 2½" Strips 14 bolted to the centre of the flanges of Plate 1.

The rear wheels are provided by two 1" Pulleys, fitted with Motor Tyres, which are mounted on a 3½" Rod journalled in the rearmost holes in the side flanges of Plate 1. Positioned between the offside wheel and the Flanged Plate is a 1" Pulley which takes the drive from the Motor, via a 6" Driving Band. Front wheels are provided by two Pulleys without boss, clad with Flexible Rings, which are mounted on a 3½" Rod journalled in the end holes of Stepped Curved Strips 3. Each wheel is spaced from the Strips by two Washers and is held in place by Spring Clips.

Finally, front and rear lamp representations are provided by Bolts positioned as shown.



An easy-to-build 'Funmobile' model which we have modified slightly from an original design by Mr. Luc Levasseur of Drummondville, Quebec Province, Canada. It is built from a No. 3 Set, plus a 4½ volt Electric Motor.

PARTS REQUIRED

6- 5	2-35	1- 52	2-155
5-12	56-37a	2- 90a	2-190
2-16	42-37b	1-126	1-193
3-22	9-38	2-126a	2-194a
2-22a	2-48a	2-142c	1-199

DATELINE

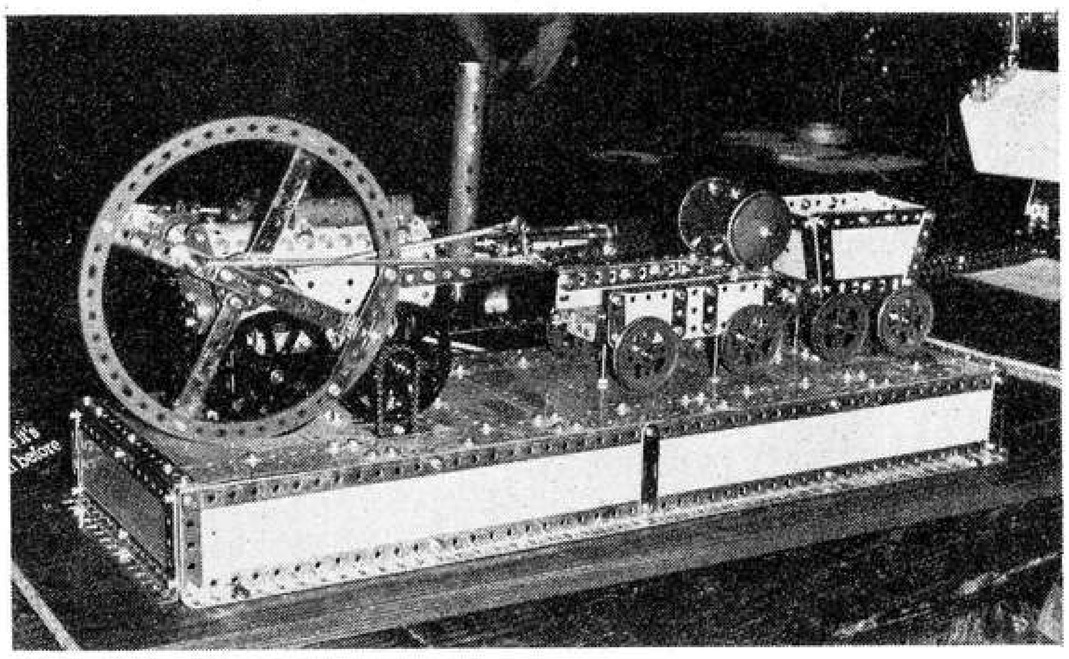
CLITHEROE

North West M.G. Exhibition Report by Michael Walker

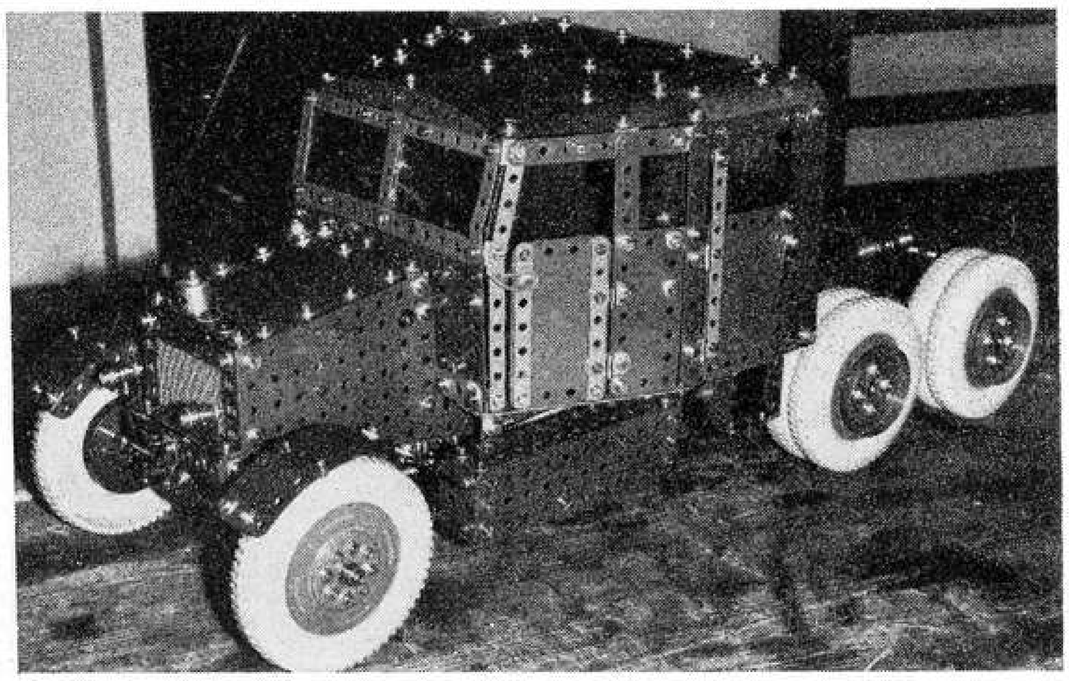
SATURDAY APRIL 5th was the date set for the first ever North West Meccano Guild Exhibition of Meccano models. It was the first time since the 1920's that such a show had been held in the North West of England, as far as could be researched!

All the work involved was amply rewarded when the doors of the Physiotherapy Centre, Clitheroe, opened at 11 a.m. as the public streamed in and it was evident that we were on to a winner! In fact, the Centre was packed all day with every age of visitor.

Meccano models in plenty provided a blaze of colour and movement, built by advanced modellers who had travelled from all parts of the Country. From Stratford came Midlands M.G. members Clive Hine and Ernest Chandler. Indulging his passion for Supermodels, Ernest displayed a well-proportioned Railway Breakdown Crane and an improved display/advertising model of a Flying Aeroplane Fairground Ride which was very popular with the younger onlookers. Also from the Midlands M.G., David Guillaume showed a neatly proportioned operating Tramcar which spent the day going back and forth along its track. Alan Partridge from Sutton Coldfield demonstrated a very accurate Orrery to fascinated viewers. This model, which shows the way in which our own planet goes round the sun, is accepted as being the most correct Meccano model of this type ever made. A huge model of the Saltash Bridge also built by Alan, stood proudly during the show to complete his contribution.



Above, a very neatly-proportioned model of Trevithick's Locomotive by Norman Mason of Wigan. Below, the heavy-duty Scammell Tractor by Bill Charleson of Cleckheaton.



Of the Meccanomen residing in more northerly latitudes, Norman Chapman came from Huddersfield to provide a mini-exhibition of his own! Among the models he displayed were a huge Co-Co Diesel Loco; the much improved Supermodel Dragline and a Baltic Tank Loco which featured, among other things, a beautiful valve motion. Alan Grimshaw from Yeadon showed another large-scale Locomotive of the "Blue Peter" Pacific Class and two fairground models. John Bader from Bradford brought a Vintage Car Model and a "Morris" Mobile Crane. A massive crawler base built by John Hornsby from Oldham displayed its intriciate tracks and transmission. Another "mini-exhibition", consisting of an advanced Scammell Tractor, an SML "Live Steam" Mechanical Navvy and a Multikit Mobile Gun, was provided by Bill Charleson of Cleckheaton.

Geoff Coles, from Nottingham, brought his two children who are both very interested in Meccano. His daughter, Francine, built a Magic Motor-powered Beam Engine and added more fun with the outfit model Scorpion. Geoff's son, Julian, needed just a little help from his father in order to build the impressive GMM Supermodel Jeep, but he needed no help at all to win the Junior Modellers' Competition with a beautiful little model 1927 Fowler Steam Roller. Julian was congratulated on his fine effort and presented with the first prize of a No. 3 Meccano Set by Geoff Wright of Henley-on-Thames, who kindly judged the Competition. As if this wasn't enough, Julian rounded off his magnificent effort with a hilarious model Barking Dog! Well done, Julian!

The biggest model on show was undoubtedly Mike Pashley's huge Marion Shovel. Mike, from Sheffield, amazed the crowds with not only the size, but the complexity of this multi-motored ceiling-scraping

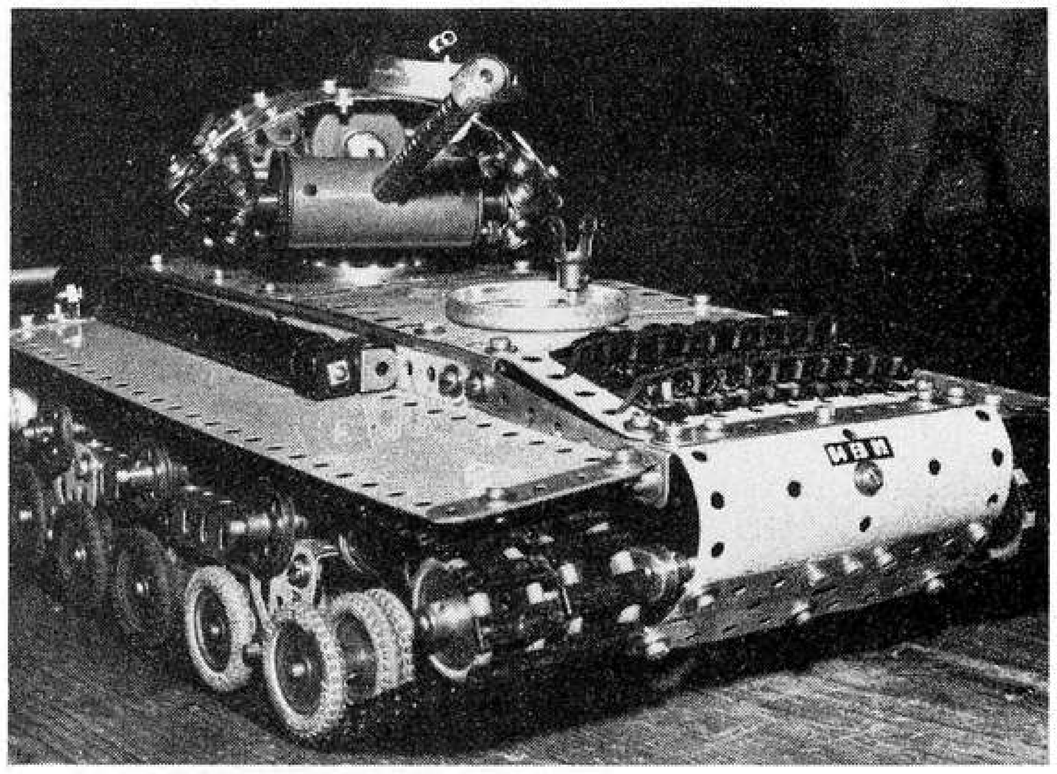
construction! Following the actual design patterns, this is the most realistic model of this Shovel to date. Mike's son, Stephen assisted with another Excavator of his own design.

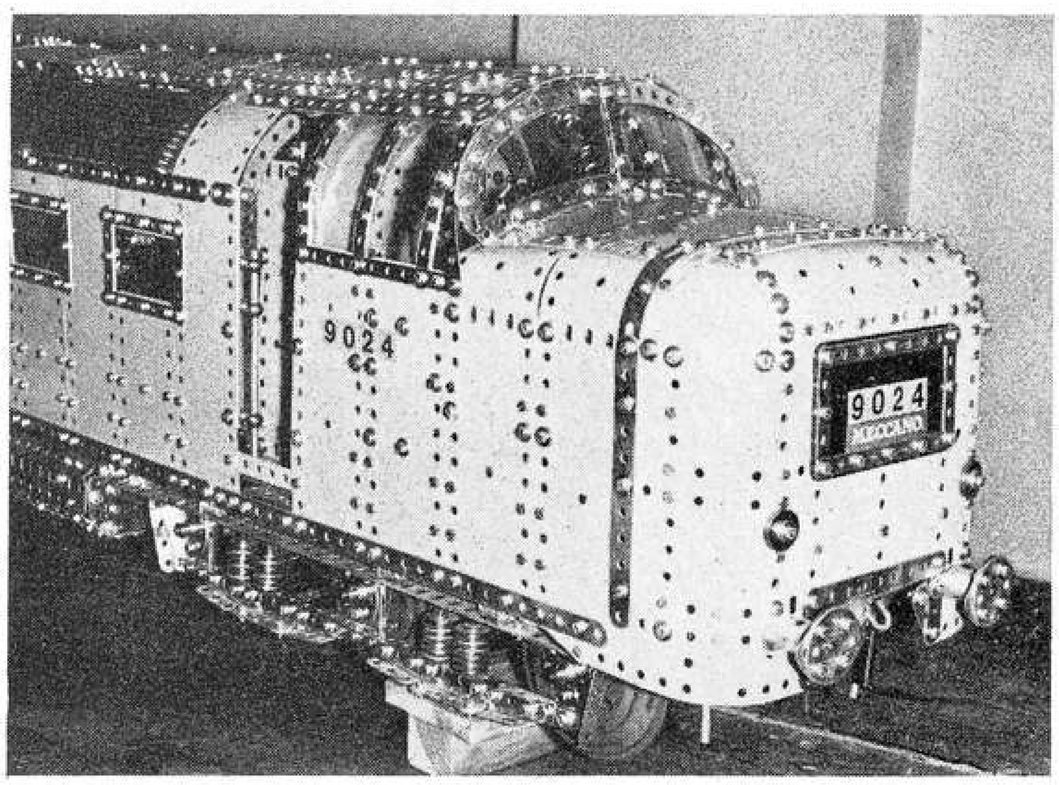
The theme of all-out size was continued in the ever-popular SML Block-setter by Norman Mason, from Wigan. During the show, Norman gave away patterns drawn automatically on his own-design Meccanograph, and he gave visitors the chance to study his colourful veteran "Trevithick" Locomotive. The model Cargo Ship which Martin Cassidy from Huyton built was again a large one at over six feet in length. A multitude of multikit models, also from Martin, were picked up and examined by the public. John Nuttall's Pontoon Crane operated completely automatically all day, its operation being governed by a sequence gearbox. With John, from Leyland, came Martyn and Graham Brown, with a remote-controlled Mobile Crane by Martyn and a rakish Delta winged Aeroplane by Graham.

Bill Barker demonstrated the obstacle-negotiating capabilities of his crawler-track remote-controlled Tank, the Scorpion, to an audience of his own. Another Clitheroe modeller, Sidney Whiteside, the N.W.M.G. Chairman, provided plenty of action with a propeller-driven Aeroplane which took off, circled its central pylon and landed in a very realistic manner. An unusual model of a complete shaft pulley-driven Workshop with such features as working bench tools and even an overhead fan completed Sidney's contribution. The Guild Secretary, Michael Walker, showed his latest American Car and a modified outfit model of a Twin-cylinder Marine Engine. One youngster, Eric Lightly, found himself unable to get to the exhibition due to the fact that he lives in Inverkeithing Scotland, but, not to be deterred, he actually posted his model Block-setting Crane to the Secretary who ensured it was put on display! John Ellis, however, a young enthusiast from Prescot, Merseyside was able to attend – and exhibited a 2ft 8in. long, 1ft 8in high working Gantry Crane, powered by two motors.

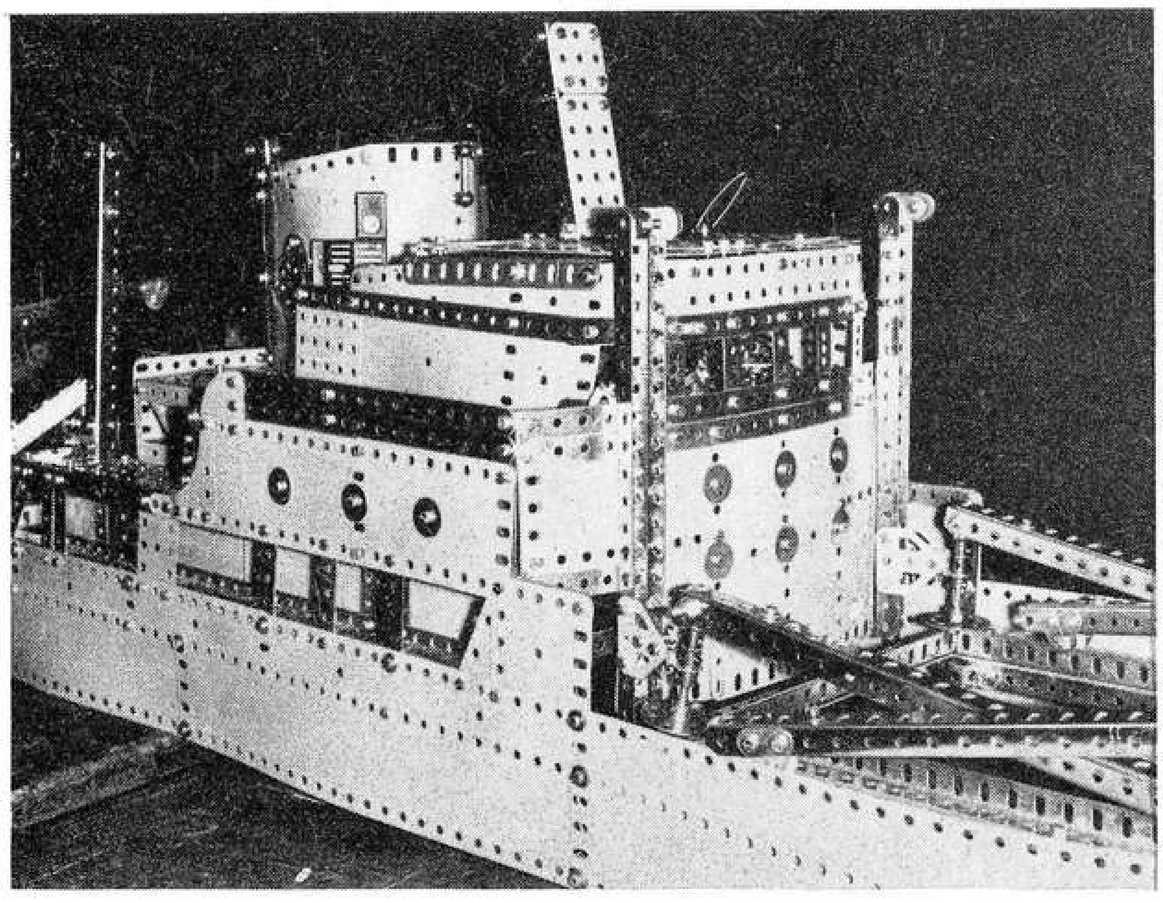
At the end of a very hectic day, the doors finally closed at 6 p.m. when every modeller present agreed that it had been yet another wonderful day for the Meccano hobby. Our sincere thanks go, not only to all the modellers mentioned in this report, but also to those who gave their support yet left without leaving their names, or other details. All are deserving of the highest praise in travelling great distances in order to show their models to the public.

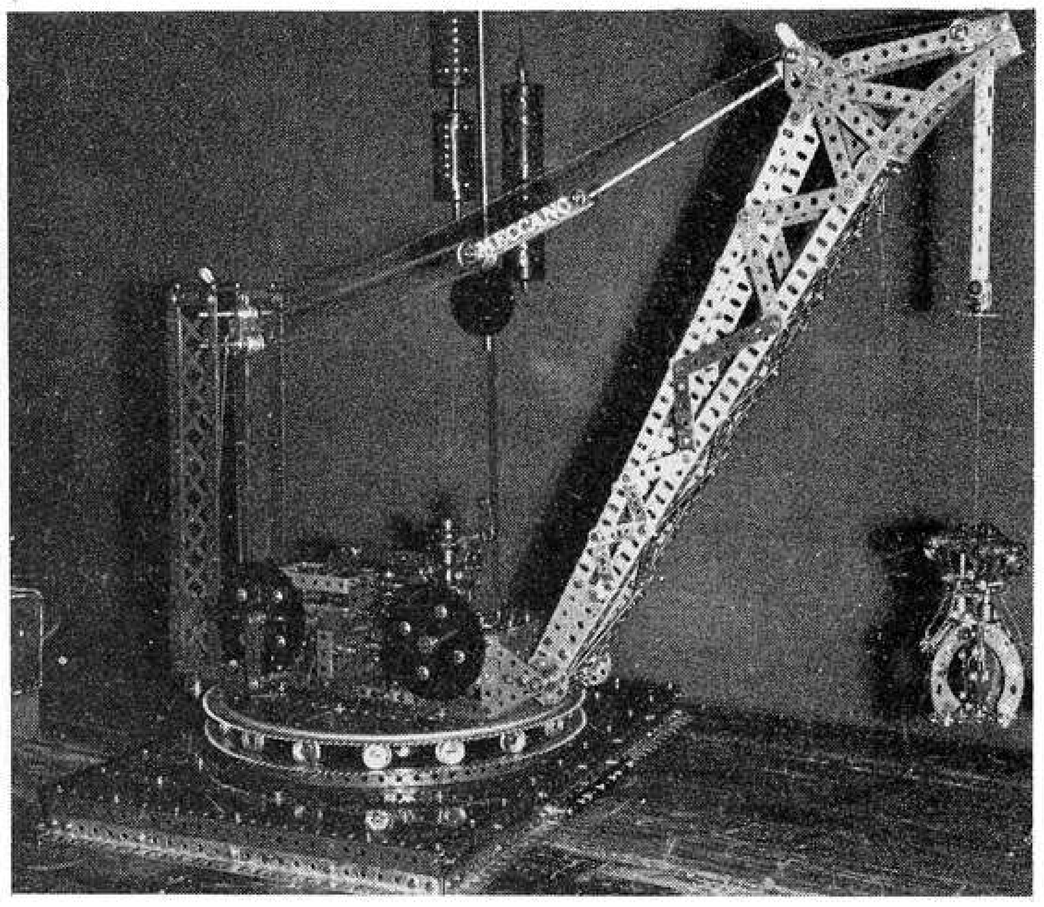
Here's to next year!



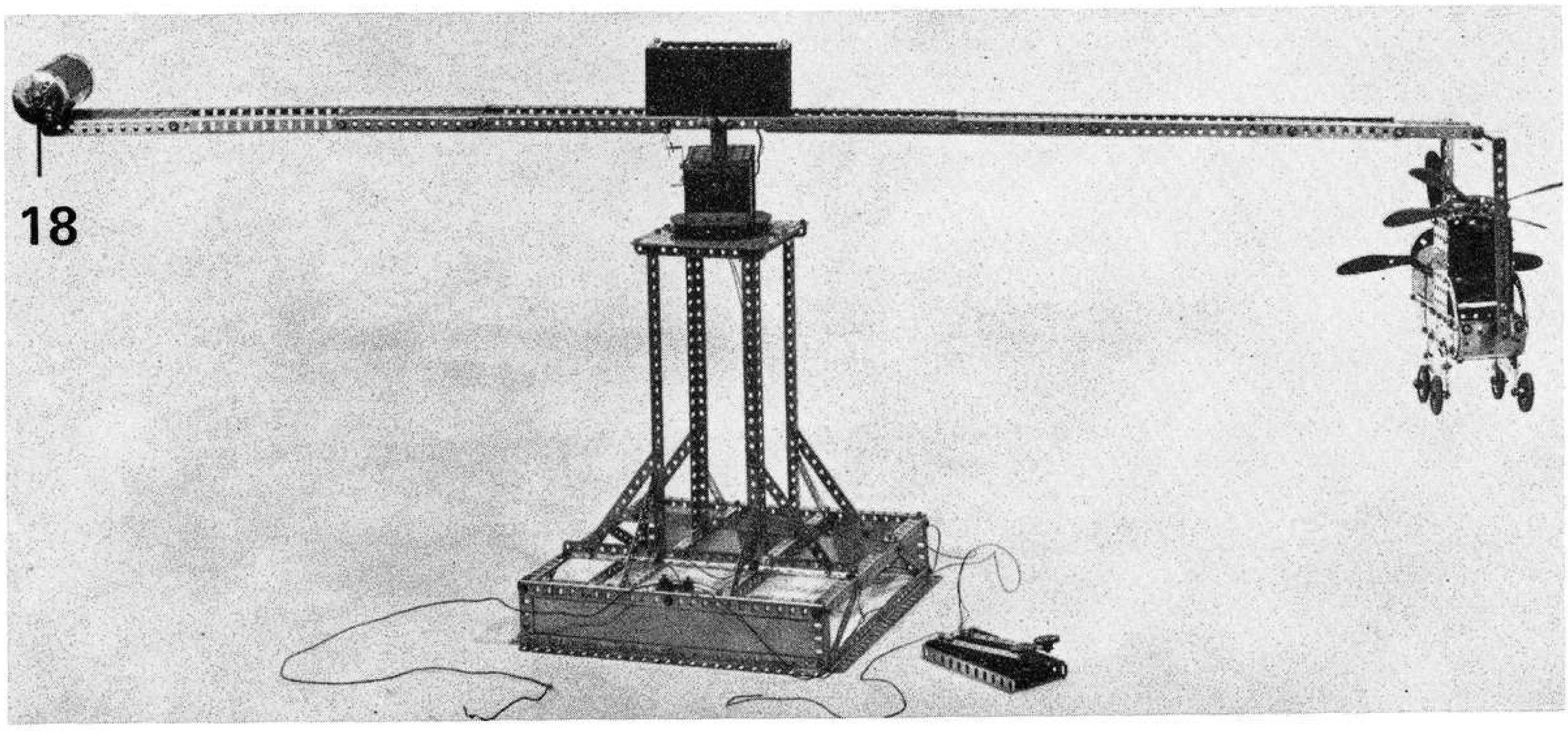


Top right, an impressive view of the remote-controlled Tank by Bill Barker of Clitheroe. Above right, one end of the absolutely superb Co-Co Diesel Locomotive by Huddersfield's Norman Chapman. Below left, the bridge section of Martin Cassidy's excellently proportioned Cargo Ship. Below right, John Nuttall's extremely neat Pontoon Crane, programmed for automatic operation.





CHOCKS AWAY, CHAPS!



18

Take to the air with our

MECCANO HELICOPTER

Inspired by Stuart Yule * Described by "Spanner"

SOME MECCANO MODELS are simple little things, knocked together in a couple of hours, while others are precision engineering masterpieces that can take years to perfect. Then, again, some other models are not simple and perhaps are not masterpieces either, but are certainly the greatest of "fun" – fun to build and fun to operate.

In my years with MMQ, and the M.M. before it, I have seen and operated countless hundreds of models of all shapes and sizes; large and small, complex and simple, but few, if any, have given me so much unashamed pleasure as the Remote Control Helicopter featured here. A 'working' model in the real sense, it will keep all ages enthralled for hours! The Helicopter, suspended from a counterweighted beam which is free to both revolve and pivot on its support tower, is powered by two independently-motorised propellers, one giving vertical 'lift' and the other forward 'push'. By using remote switch gear, one or both motors can be operated – to literally 'fly' the Helicopter. Ingenious!

Full credit for the original model design goes to Mr. Stuart Yule of Bearsden, Glasgow, although we simplified it somewhat to reduce the number of parts required to build it. As a result, it is perhaps not quite as sturdy as Mr. Yule's original, but it certainly worked well enough to captivate the whole of your MMQ staff!

CONSTRUCTION

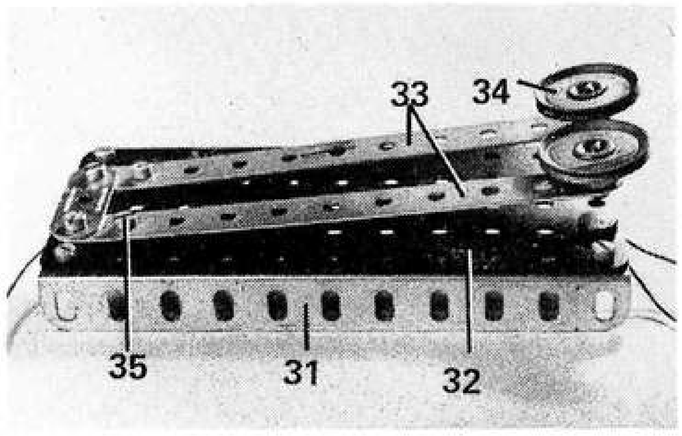
Dealing first with the Helicopter itself, it should be stressed that this is a functional machine and is not designed for beauty! Bolted to the side flanges of a 5½" x 2½" Flanged Plate 1 are a vertical 4½" x 2½" Flat Plate 2 and a horizontal 5½" x 1½" Flexible Plate 3, the former projecting two holes beyond the front of the Flanged Plate, and the latter projecting four holes beyond the Flanged Plate. The Flexible Plate is itself extended forward by a Semicircular Plate 4, as well as being extended rearwards by a 2½" x 1½" Triangular Flexible Plate. The lower corners of Plates 3 at each side are connected by 2½" x ½" Double Angle Strips, another similar Double Angle Strip being used to connect the forward corners of the Semicircular Plates at each side. Note that the securing Bolts in the latter case also fix two 3" Stepped Curved Strips 5 in place to serve as the cockpit window frames, the upper ends of the Strips being bolted to Flat Plate 2.

Now fixed by one of its flanges to the top of Flanged Plate 1, through the third row of holes from the front, is a 3½" x 2½" Flanged Plate 6. This is bent forwards slightly and the upper end bolted to a 2½" x ½" Double Angle Strip 7 secured between the upper rear corners of Flat Plates 2. Fixed to the front of the Flanged

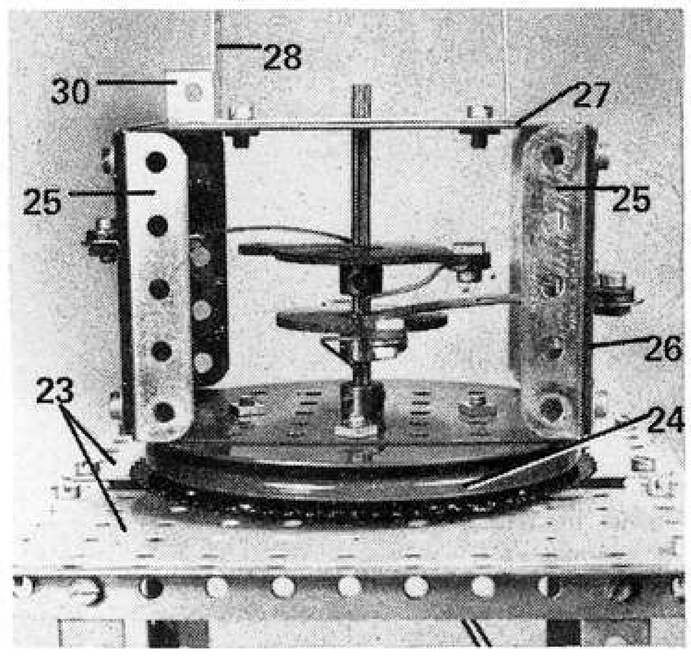
Plate is a Motor-with-Gearbox, set in the 3:1 ratio.

Another Motor-with-Gearbox, also set in the 3:1 ratio, is bolted to the top of Flanged Plate 1 with the output shaft of the Motor protruding through the centre hole in a 2½" x 1½" Flanged Plate 8 bolted to the top rear of Plate 1. Each Motor is fitted with a built-up propeller, but, before attending to this, the remainder of the Helicopter should be finished. A 2½" x 1½" Flanged Plate 9 is bolted between the forward edges of Flat Plates 2, the lower securing Bolts also fixing a 2½" x ½" Double Angle Strip between the Flat Plates. Bolted to this Double Angle Strip is a 2½" x 1½" Plastic Plate, extended forwards by a 2½" x 2½" Transparent Plastic Plate, serving as the cockpit window. The lower end of the Transparent Plate is bolted, along with the upper end of a 2½" x 2½" Curved Plate 10, to the front Double Angle Strip of the fuselage, then the underside of the fuselage is enclosed by a 5½" x 2½" Flexible Plate bolted to the lower Double Angle Strips connecting the fuselage sides.

A cover for the rear, or 'pusher' motor is simply provided by four 3½" x 2½" Plastic Plates, arranged as shown and bolted to the side flanges of Plate 1. Equally simple is the undercarriage, each side of which is built up from two 2½" Stepped Curved Strips, connected by a 4" Stepped Curved Strip 11 and bolted to Flexible Plate 3. Each front wheel is provided by a 1" Pulley with boss,



Above, the remote control switch used to control the two motors fitted to the Helicopter. Right, a close-up view of the Ball Thrust Race assembly at the top of the support tower.



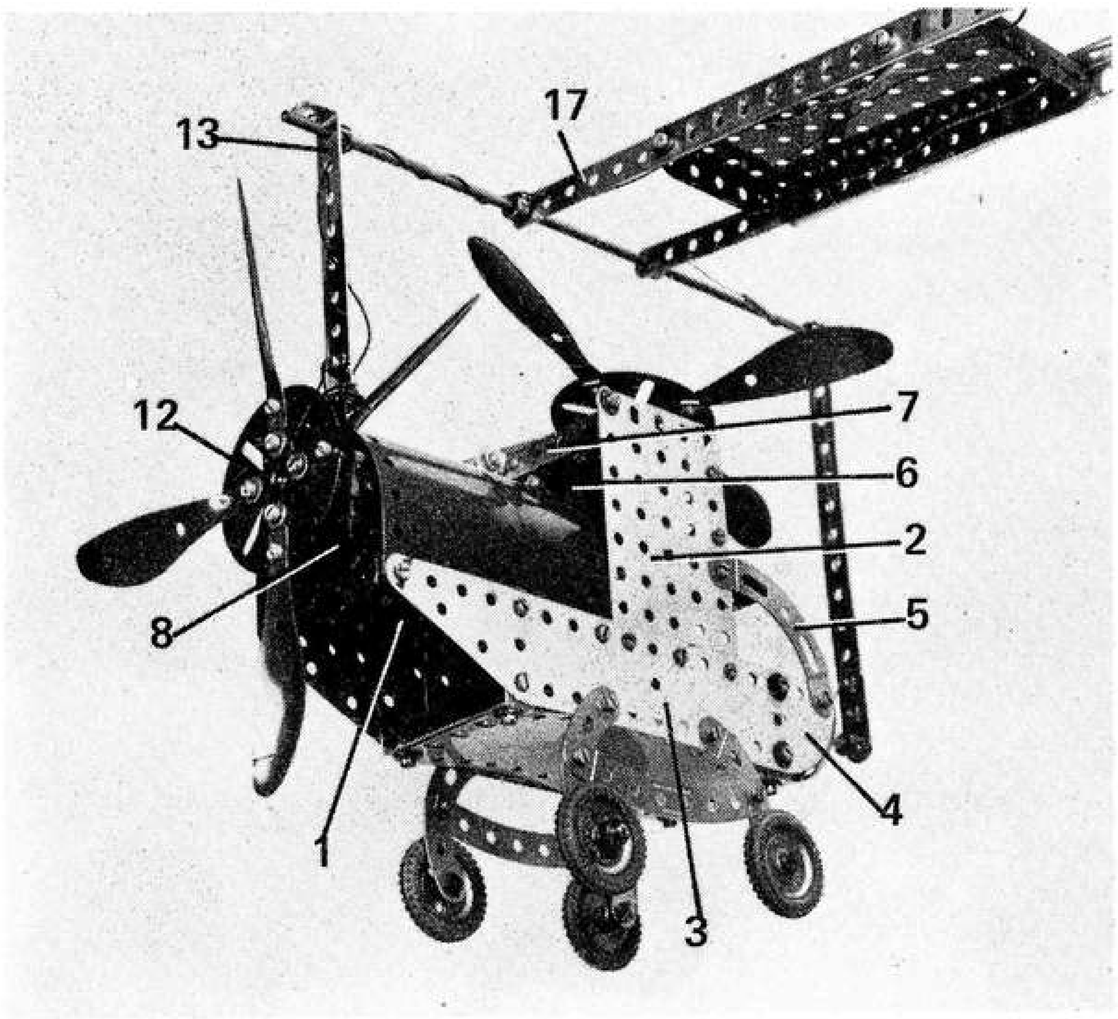
fitted with a Motor Tyre, and running free on a Pivot Bolt held in the lower end hole of the front 2½" Stepped Curved Strip. Each rear wheel is a 1" Pulley without boss, also fitted with a Motor Tyre, but carried on a Threaded Pin and held in place by a Collar. Each of the above-mentioned propellers is built up from a Face Plate 12, to which four Propeller Blades (Part No.41) are bolted, as shown.

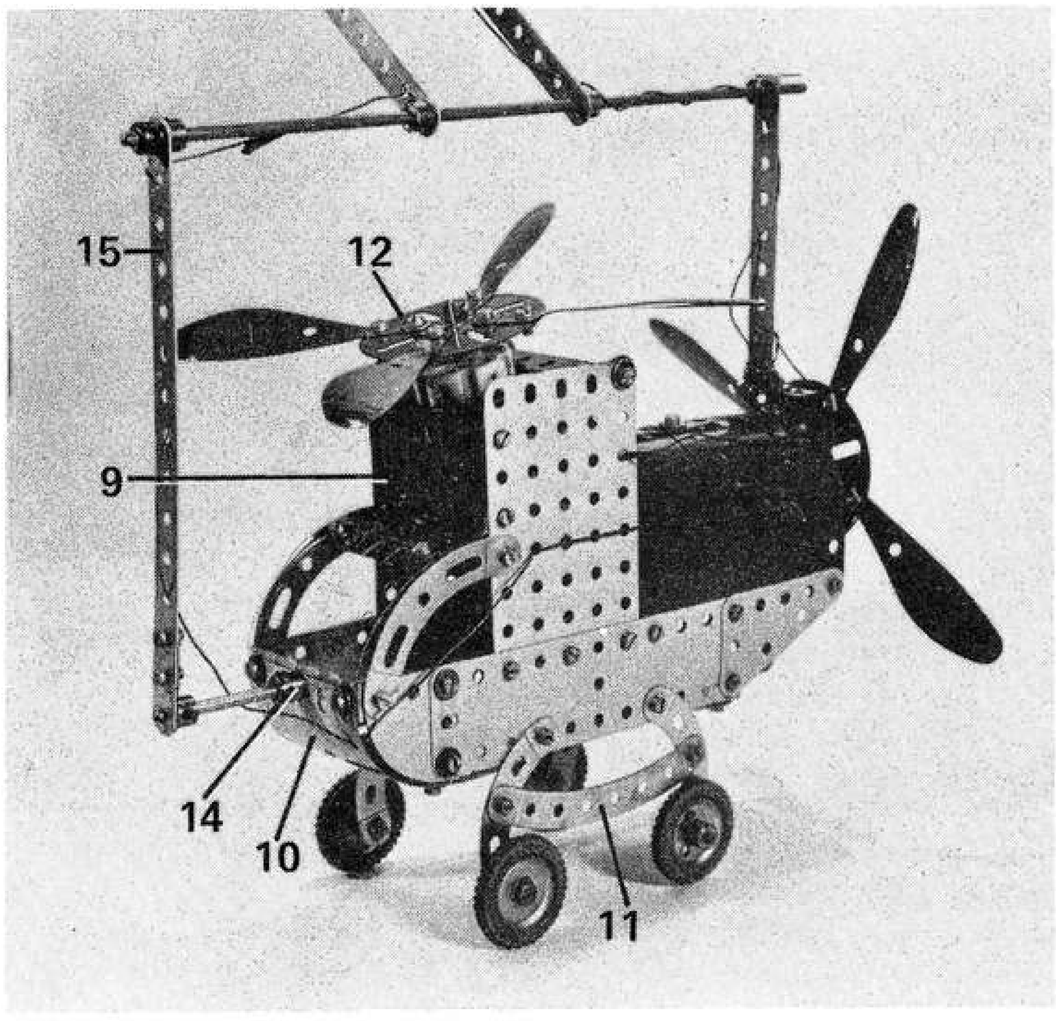
This completes the Helicopter, itself, but before moving on, it is as well to add the fixing brackets by which the Helicopter is later attached to the rotating beam. The rear of these is simply provided by a 4½" x ½" Double Angle Strip 13 bolted to the upper flange of Flanged Plate 8, but the front bracket is a little more complicated. A Rod Socket 14 is fixed to the front centre of the fuselage and in this is secured a 2" Rod. Tightly held on the front end of the Rod is a Crank, the arm of which is extended upwards by a 7½" Strip 15, as shown. Journalled in the upper end hole of this Strip, and in the corresponding hole in Double Angle Strip 13, is an 11½" Rod held in place by Collars.

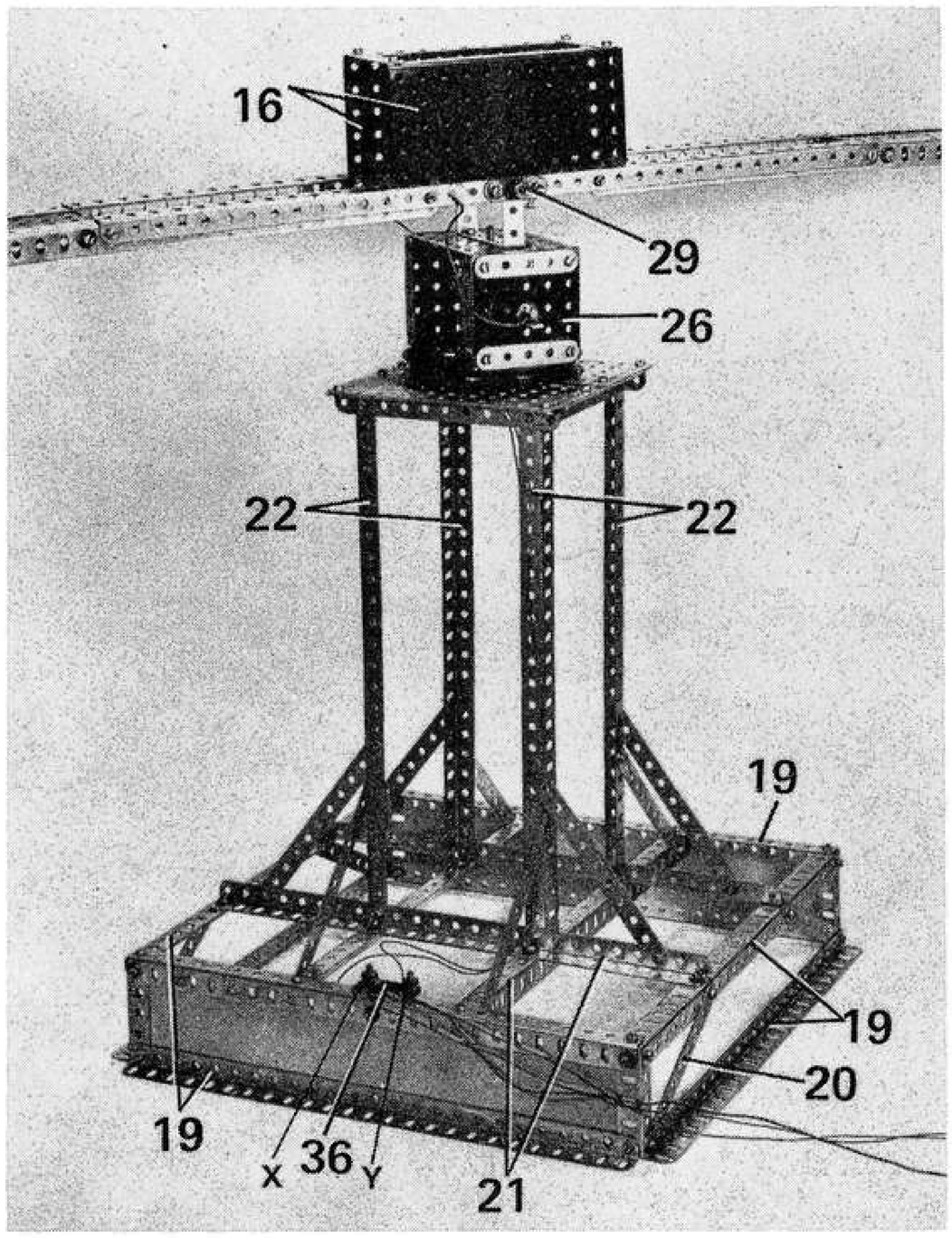
ROTATING BEAM

Turning now to the rotating beam, the length of this unit would depend on the operating space the individual modeller has available to him. Our beam, however, is 55½" in length and is simply built up from two lengths of overlapping Angle Girders connected together by four 5½" x 2½" Flanged Plates. Each length actually consist of two 24½" Angle Girders at each end, separated by a distance of seven holes, and joined by an overlapping 18½" Angle Girder. The connection is further strengthened by two 5½" x 2½" Flanged Plates 16, positioned as shown and themselves connected together by 2½" Strips at the upper →

Below left, an underside view of the Helicopter showing the mounting for the "pusher" motor and assembly of the propeller. Below right, a front view of the Helicopter. Note the forward tilt to the "lift" motor.







A close-up view of the support tower for the Remote Controlled Helicopter inspired by Stuart Yule of Bearsden, Glasgow, With two independently - controlled motors, each driving a propeller, the model qualifies as a real flying machine and 'Spanner' claims that few, if any, other models have given him so much fun.

corners. One end of the beam is extended six holes by two 7½" Strips 17, and it is from the end of these Strips that the Helicopter is slung: the 11½" Rod mentioned above passes through the end holes in the Strips, where it is held in place by Collars.

At the opposite end of the beam, a counterweight cannister is provided by a Boiler, complete with Ends, which is of course bolted in position. A suitable counterweight – we used pieces of lead – is carried in the cannister, but the weight required cannot be determined until the support tower has been built and the beam fixed in place.

SUPPORT TOWER

Construction of the support tower, again, is not difficult. A good solid base is built up from two squares of 12½" Angle Girders, connected at the corners by 2½" Angle Girders and braced as shown by 4½" Strips 20. Four more 12½" Angle Girders 21 are now bolted, two between each pair of opposite Girders 19 in the upper "square", then bolted to the vertical Flanges of the two uppermost of these Girders are four more 12½" Angle Girders 22, positioned vertically as shown. At their lower ends, these Girders are braced by 5½" Strips, two Strips to each Girder, while, at their upper ends, the Girders are connected together by two 4½" and two 5½" Angle Girders.

Tightly fixed to the top of the Angle Girders are two 5½" x 2½" Flat Plates 23, separated by a distance of one hole. Bolted to the centre of the Flat Plates is a Ball Thrust Race Toothed Disc with, free to revolve in it, the Ball Cage and Flanged Disc which make up the remaining sections of the Thrust Race. The Flanged Disc is bolted to the underside of a 4" Circular Plate 24 which is itself bolted to the underside of a 3½" x 2½" Flanged Plate. Each flange of this Plate is extended upwards by two 2½" Angle Girders 25 and a 2½" x 2½" Insulating Flat Plate 26 (Electrical Part No.511), the upper and lower edges of which are overlayed by 2½" Strips, the securing Bolts also fixing another 3½" x 2½" Flanged Plate 27 between the tops of the Insulating Plates. Projecting downwards through the centre hole of this Plate, as well as the lower Flanged Plate, the Circular Plate and the Ball Thrust Race, is a 4" Keyway Rod, the lower end of which is fixed to an 8-hole Bush Wheel bolted to the underside of Flat Plates 23. Fixed on this Keyway Rod are two Flat Commutators (Electrical Part No.551), in continuous contact with each of which is a 1½" Wiper Arm, fixed by an Angle Bracket to one or other of the nearby Insulating Flat Plates. The Bolt fixing each Angle Bracket to the inside of the Insulating Plates also fixes a similar Angle Bracket to the outside of the Plate, this Angle Bracket later serving as an electrical connecting point for the appropriate wiring. The wiring circuits will be described later.

Now fixed to the top of Flanged Plate 27 is a 2½" x 1½" Double Angle Strip 28, the upper holes in the lugs of which serve as the pivot points for the rotating beam. The connection is simply made by a 3½" Rod passed through the end holes in the lugs and fixed in Double Arm Cranks 29 bolted to the beam. Note, however, that these Double Arm Cranks are not centrally positioned on the beam, but are actually positioned off-centre, the bosses of the Cranks co-inciding with the fifty-third holes from the counterweight end of the beam. This off-centre position is of course counteracted by the counterweight to ensure that the beam balances. A 'stop' to prevent the beam tilting too far under the counterweight is provided by an Angle Bracket bolted to the beam and making contact with a 1½" x ½" Double Angle Strip 30 bolted to one 2½" Girder 25 and projecting one hole above the upper end of the Girder. At this stage, the beam should both pivot and revolve freely on the tower.

ELECTRICAL CIRCUITS

The electrical side of the model is now ready for completion, but, before fitting the wiring, a simple control switch is built up from two 5½" Angle Girders 31 bolted to a 5½" x 2½" Insulating Flat Plate 32. Bolted in turn to one end of this Insulating Flat Plate are two 5½" Strips 33 joined by a 1½" Strip. These Strips are curved gently upwards towards their other ends, where each is fitted with a Contact Screw (Electrical Part No.543), head downwards, held in place by a 1" Pulley 34. When the Strip is depressed, the Contact Screw makes contact with a Contact Stud (Electrical Part No.544), fixed to the Insulating Flat Plate beneath it. Each Strip is prevented from springing upwards too far by a 3/8" Bolt 35 passed through the second hole of the Strip and through the Insulating Flat Plate, beneath which it is fitted with two lock-nuts. This Bolt should not grip the Strip tightly, but should be sufficiently loose to allow movement of the Strip, while preventing excessive upward movement.

The wiring can now be installed, using insulated wire throughout. First

Continued on page 84

MECCANO MISCELLANY

"No Man is an Island"

says Mike Nicholls

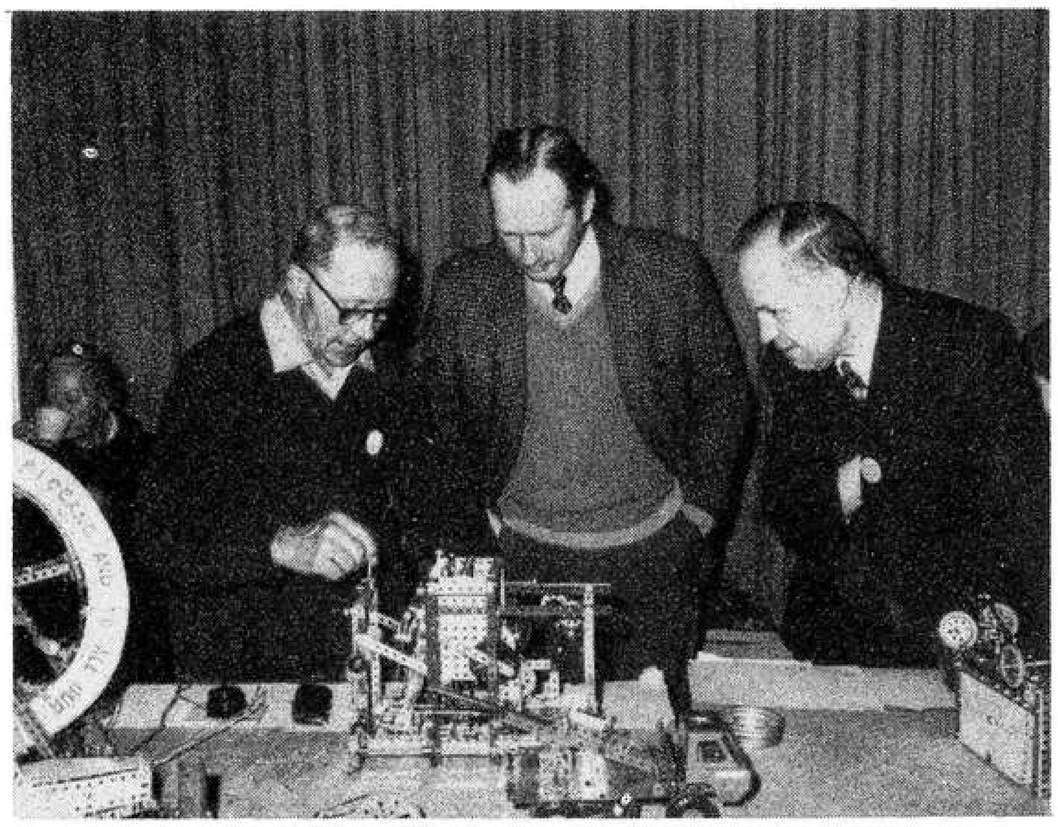
GENERALLY SPEAKING, Meccano Enthusiasts can be divided into two types: (1) those who like to work entirely alone, getting satisfaction from their accomplishments and not wishing to exhibit their work publicly, and (2) those who like to talk Meccano to, and/or correspond with other Meccano Enthusiasts, exhibit their work, and join a Club.

Since the very early days of Meccano, there have been Meccano Clubs. The old Meccano Guild served as a point of focus for all the Clubs, and the MM (as indeed it still does) reported Club activities and kept everyone in touch. The heyday of the Meccano hobby is believed by many to have been the 1930s, but during the past few years, there has been such an upsurge of enthusiasm in Meccano Engineers of ALL ages, that the 1930s may soon appear to be no more than a "practice run" for the Golden Age of the 1970s!

Anyone who attends Meccano Clubs today can see for themselves that the overall current standard of modelling has no equal in the past, and this is no disrespect to the Enthusiasts of the thirties – many of them are "still going strong" as the backbone of today's Clubs! By and large, modern-day modelling outstrips the past by a long way; modern thinking and the new sophisticated parts are by no means the whole answer to why this should be so. I think the main reason is today's widespread *adult* interest in Meccano.

Most of the modern Clubs are basically adult Clubs – this was not so previously – and the young modeller of today need not look far for adult advice or encouragement. There are not as *many* Clubs today as there were in the past, *and this may be a good thing.* The modern Club has a much larger catchment area, as many people are able to travel many miles to attend – that was not heard of in the thirties. People attending a Club meeting today are seeing the work of Enthusiasts from a very wide area, and the parochial atmosphere of the old Clubs has gone.

The advantages of Club membership. Above, Bill Roberts (left) explains the workings of his Loom to fellow members of the Henley Society of Meccano Engineers. Left, Michael Martin demonstrates an Elipse Drawing Machine to members of the Holy Trinity Meccano Club.



But there are still not enough Meccano Clubs to serve everyone in Britain. However, as there are Meccano Enthusiasts in all parts of the nation, this need not be so, and indeed the situation is slowly changing. We need more Clubs for young people too. The pioneering work of Dennis Higginson in Stevenage needs to be echoed in other parts of the country. Anyone who starts a Junior Meccano Club is not in for an easy time, but it will be rewarding experience because young Meccano Engineers are truly enthusiastic.

Of course not everyone wants to be a Club leader *but everyone should be a club member.* It cannot be overstressed how much benefit is obtained by attending Club meetings. Just seeing other peoples' ideas in action and talking to people who have like interests is extremely stimulating. Those who stay at home are not only missing out on this, *but also are depriving the hobby of their own contribution.*

Perhaps the largest adult Club membership list is that of the Meccanoman's Club, but the *majority* of that Club's members will still not allow their name to be published in the list! Is this perhaps a subtle indication that there are some adults who are ashamed of being Meccano Enthusiasts; or do not wish to have contact with other Meccanophiles?

Now that Meccano is an established hobby for ALL ages, isn't it time for those who are still hiding their light under a bushel to come out and enjoy the company of their fellows, and to take part in spreading the word to those unfortunates who have not yet discovered the hobby of a lifetime?

* * *

My "blasphemous" article "Meccano Parts and How to Bend Them" in April's MMQ seems to have caused quite a stir, and many people have asked me how the photograph showing a right-angled Geared Roller Bearing (or 6" x 6" Geared Angle Bracket!) was produced. Well, all those who thought that I had actually bent a 167a, or replica, can relax. The following is an account of how it was done. A Geared Roller Race was photographed together with an old MM, the finished picture being pasted onto a sheet of card. The image was carefully cut out, folded and placed against a row of magazines. So it was just a "cardboard replica"!

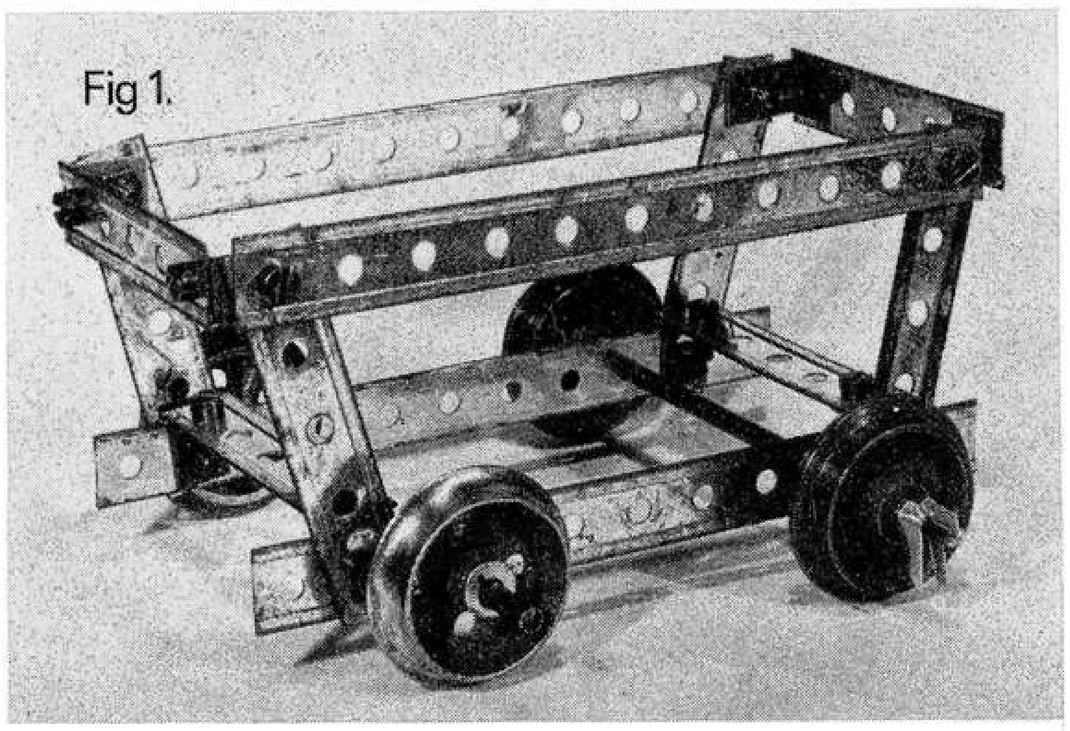


Fig 1.

COLLECTORS' CORNER

B.N. Love discusses

THE EARLY DAYS

REGULAR READERS of 'Collectors' Corner' will be familiar with the name Frank Hornby as the originator of the MECCANO system. It is not widely known, however, that, as Frank Hornby was not a mechanic or a skilled toolmaker (he was actually employed in the wholesale meat trade), he went into partnership in his very early days. At the turn of this century he was already experimenting with toys for his own sons along the lines of sub-assemblies, but the use of strips and plates with standard half-inch spacing of their perforations was something of a inspiration which proved an enormous success for the future of MECCANO.

Fig. 2 shows a specimen box of one of the earliest outfits ever put out in Frank Hornby's name, but sharp eyed readers will already have spotted the name of Elliot appearing jointly on the tin box. If one assumes alphabetical order of surnames then the sequence shown would be a natural one and not indicative of any order of priority in the partnership. The address of the original work shop premises at 18 James Street, Liverpool is shown clearly on the lid in Fig. 2. Original equipment was hardly more than a bench with hand tools, a drilling machine, a fly-press and a simple lathe. The early perforated strips can be seen in front of the tin box in their original wire bindings in bundles of a dozen. Made from bright tin-plated mild steel, Hornby put a folded edge on his tinplate parts to give a rigidity to the otherwise flimsy metal. He also made the strips safe to handle by eliminating any sharp edges.

Little mention is made of the partner, Elliot, in Meccano literature and it is to be assumed that he faded from the scene before 1903 when these original construc-

Above, a specimen 1901 model railway truck made from the author's "Mechanics Made Easy" outfit. Note the discrepancies in wheel types. Below, one of the earliest boxes of Mechanics Made Easy, the fore-runner of Meccano. Note the name of Elliot appearing in conjunction with that of Hornby.

Fig. 2.

tional outfits bore only the name of Frank Hornby. Page 172 of the March 1932 Meccano Magazine shows an early advert for the 7/6d. Mechanics Made Easy Outfit bearing only Frank Hornby's name. Page 93 of the Feb. 1932 Meccano Magazine shows a box lid almost identical to that of the author's outfit, illustrated in Fig. 2, but, again, Elliot's name is missing.

Producing perforated tinplate strips on a fly-press with a simple punch tool was no real difficulty, but wheels were another matter. As Frank Hornby wanted them to be in a solid rust-proof metal, he chose brass and had them cast by local foundries. He then drilled them and turned the flanges and grooves of his original wheels on the lathe in his workshop. However, his drilling was not altogether accurate as none of the wheels in the author's set will spin without wobble! This problem was eventually dealt with, but not before Frank Hornby had had many disappointments from bad service and poor quality of work from the brass founders.

He was continually trying to improve his original Mechanics Made Easy Outfits, which he had patented in 1901 and one of these early attempts is shown in Fig. 1. Here we have a 1975 rebuild of a typical 1901 model, but it will be noted that all four wheels on the rail waggon are not of identical design. Two of them are from the original set shown in Fig. 2, but the other two have four radial holes in them. Although this was a step forward in making the parts more versatile, the quality of the 'later' wheels is inferior to that of the first type.

MAJOR PROBLEM

A major problem for Hornby was that of finding a suitable method of securing the wheels to the shafts and he decided to use engineering practice by slotting his rods with keyways. This meant that the wheels all had to have a corresponding saw-cut through the boss to accommodate a 'key'. Fig. 3 shows an original pair of wheels and a grooved rod to which the wheels are attached. While Hornby achieved his objective he had also produced the weakest link in the chain, for his special 'keys' had only a knife-edge thickness as can be seen by the specimen slightly inserted into the flanged and grooved wheel shown in Fig. 3. These early keys are clearly specified in the working drawings of Fig. 4, a reprint photographed from the pages of an early Mechanics Made Easy Manual. It should be noted however that, in their positions shown in the drawing, the keys are reversed to act as what we now use as Spring Clips to hold the wheels in place, but are otherwise free on the rods. It doesn't take much imagination to realise that these early fragile keys had a very short life and a surviving key of this early knife-edge pattern would be a very rare bird these days. If any reader still has samples, the author would be very pleased to know about it.

Despite a very attractive box lid, beautifully enamelled in white, red, black and gold, Hornby had a hard job demonstrating and selling his first products and very few big stores were prepared to take on his franchise; later they were tripping over one another trying to get supplies! When one considers the time, 1901 – 1903 when the 'penny bazaars' were in their heyday, 7/6d. was far too much out of the family income to be lavished on working class children, especially in the large families popular at the time. However, specimens of these early outfits are in the collections of several enthusiasts which is a tribute to Frank Hornby's original concept. Of course, he went on from strength to strength although it was ten years before he hit on the magic name "MECCANO". However, that's a story for another day!

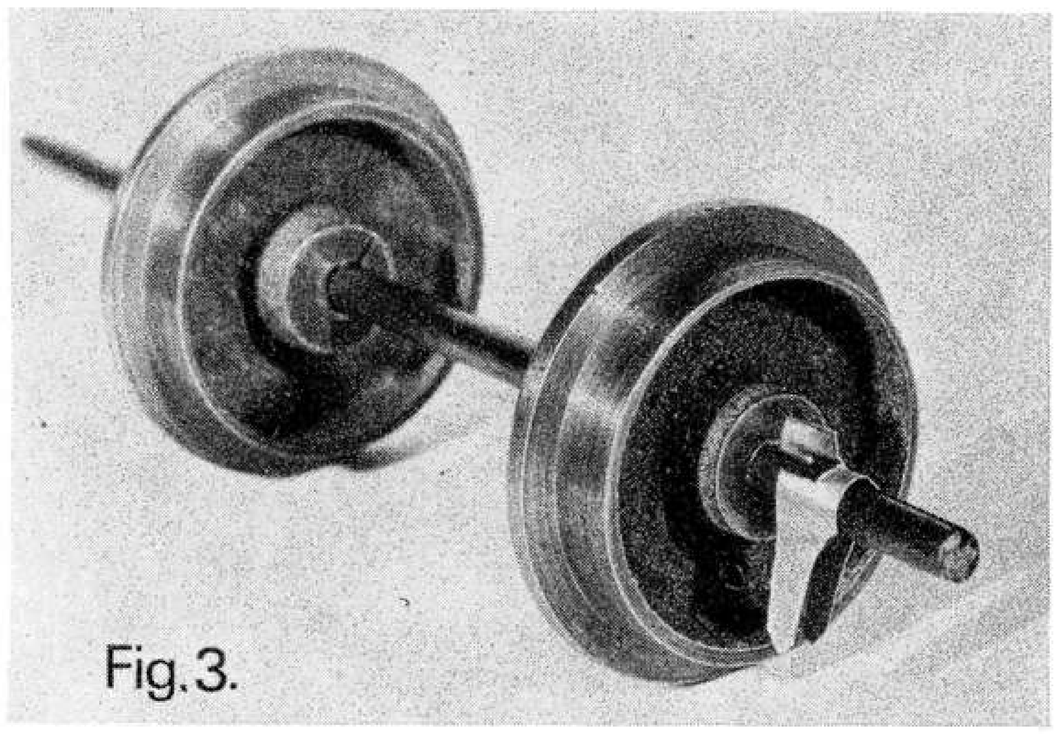


Fig. 3.

Above, the earliest method of keying wheels to axle rods by means of the knife-edge special keys. Note key is only partially inserted to show corresponding slot in the wheel. Below, a working drawing from page 13 of an early Mechanics Made Easy manual showing specification of the knife-edge keys. In this application the keys are reversed to act only as lateral retaining clips.

(Fig.4.)

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Figure No. 6. TRUCK.

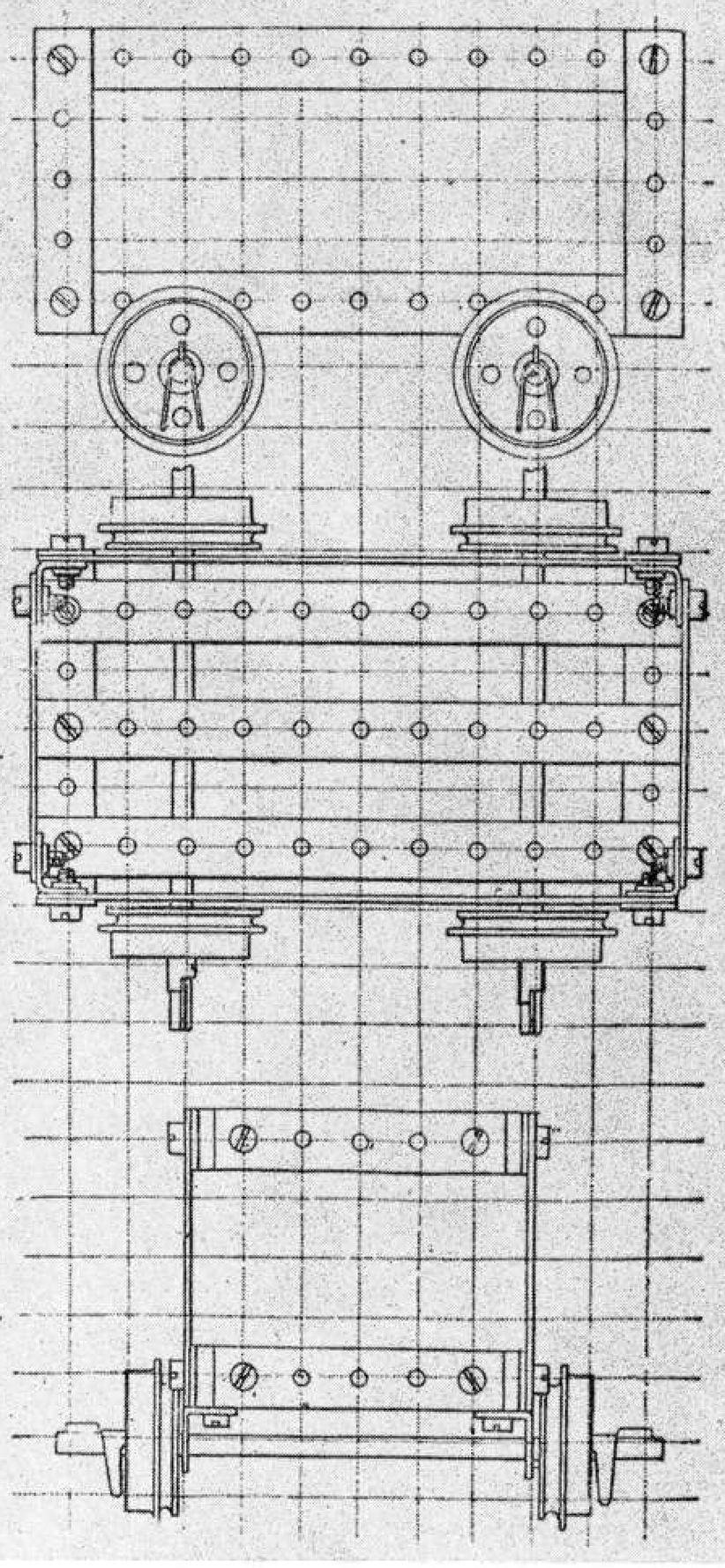


Fig. 6A.

Fig. 6B.

Fig. 6C.

SUPERMODEL!

An outstanding 0-8-0 Tank Locomotive by Dr. Jorge Catella

IT IS some considerable time since we had the opportunity of publishing a really first-class Supermodel locomotive, so we are very pleased to be able to present here this superb model designed and built by Dr. Catella of Buenos Aires, Argentina. In fact, it is because the model is so good that we are not able to describe it in full – it would require half the Magazine! – but a general description has been prepared for us by Bert Love who has also arranged the illustrations from Dr. Catella's original photographs.

Like many advanced Meccano modellers, Dr. Catella had very little detail available on which to base his model and, in fact, it was a tiny 00–gauge plastic locomotive which, in the end, served as the prototype. All the dimensions were scaled up from this! Based on an 0–8–0 tank locomotive of the German Railways, Dr. Catella has reproduced what he calls a "small wheel job". By this he simply means that the eight coupled driving wheels are smaller than the boiler diameter and, since he chose Circular Girders for the wheel rims, the boiler had to be scaled up accordingly. A glance at Fig. 1 shows the general excellent outline and detail of the model which measures some 40" long, 5½" across the buffer beams and is about 15" high. Further striking details are evident in Fig. 2 which shows a perspective view of the model with its rugged cylinder casings, framework and boiler fittings.

Several thousand Nuts and Bolts are used in the model's construction, a large number of them being used for the boiler which is made from overlapping 12½" Strip Plates, two to a circle, bolted at intervals internally to 7½" Circular Strips which give the boiler its scale diameter. Careful overlap and use of Bolts gives the 'non-perforated' boiler which Dr. Catella was aiming at. As can be seen from Fig. 2, the desired effect was very nicely achieved.

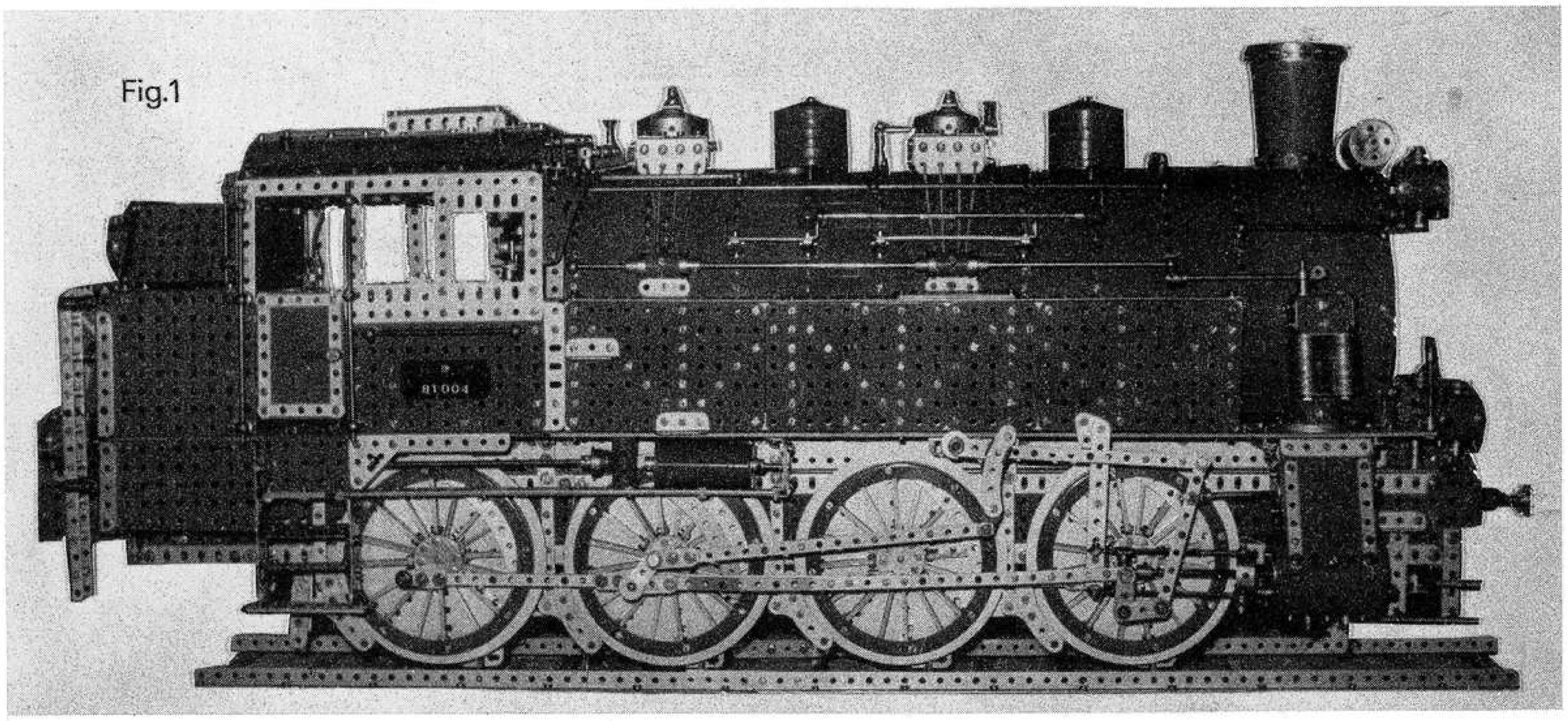
As mentioned above, we cannot give a full description here, but some sections will be treated in detail:

WHEEL CONSTRUCTION

All eight wheels are built up from the same components to produce a striking 'spoked' effect and this is achieved by using 2" and 2½" Strips in alternate bunches of three as individual spokes. Each wheel has an 8-hole Wheel Disc attached to the centre of a 6" Circular Plate by ¾" Bolts and this Wheel Disc traps eight of the longer (2½") spokes under its edges. Before tightening any Bolts, the eight shorter spokes are set on edge in their final positions and then the Circular Girder is placed over the outer ends of the spokes before fixing to the 6" Circular Plates with ¾" Bolts. The shorter spokes are secured at each end with standard Bolts to hold the three 'leaves' of each spoke together, but the 2½" spokes are only bolted at the outer ends.

All of the spokes are held in place by the combined trapping and wedging effect created by pressure of the Wheel Disc at the centre, the Circular Girder at the rim

Side view of the Tank Locomotive showing the general wealth of detail. Note the pleasing 'rivet' effect on the saddle tank.



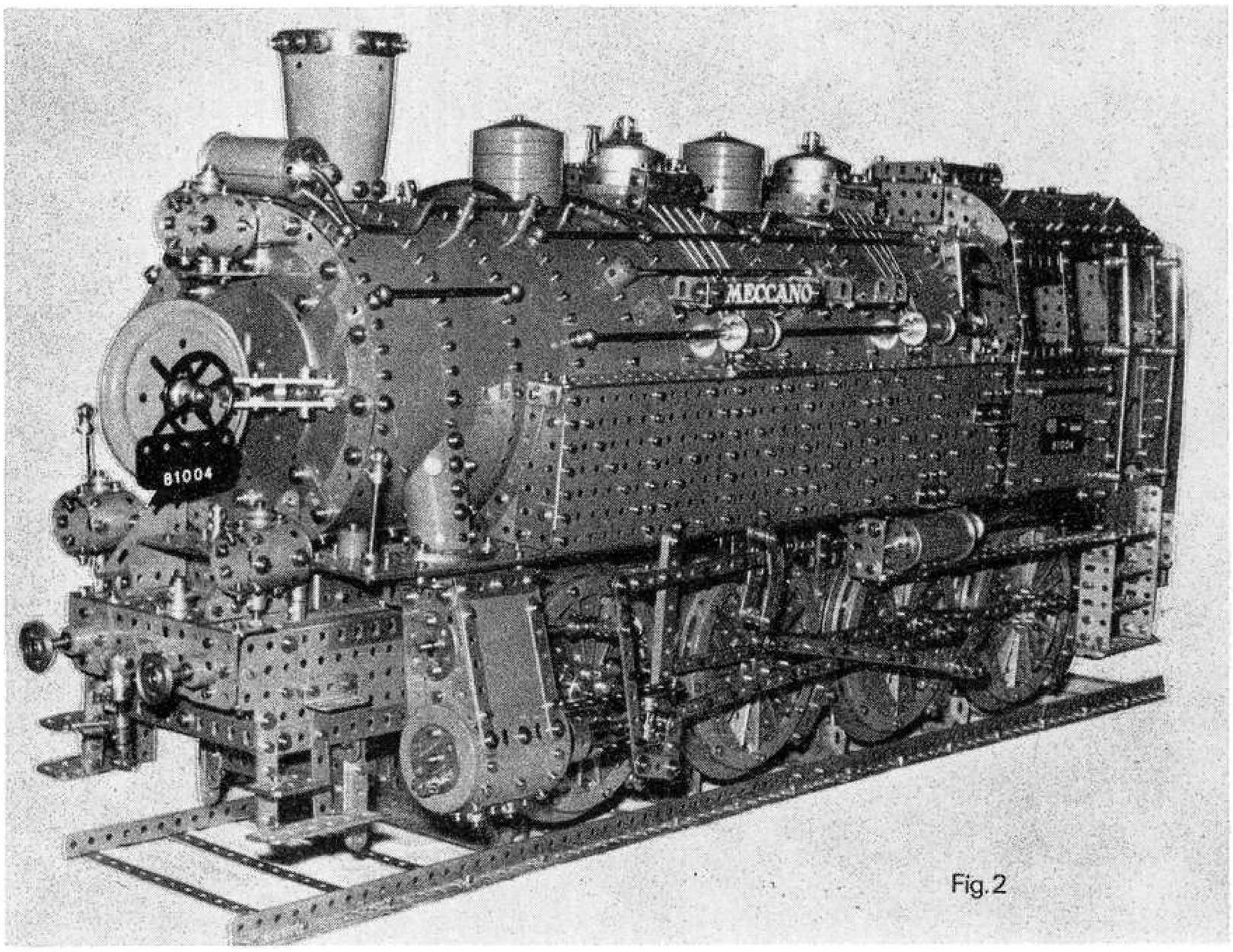


Fig.2

A tremendously impressive view of the superb 0-8-0 Tank Locomotive built by Dr. Jorge Catella of Buenos Aires, Argentina. Based on a German Railways original, Dr. Catella scaled the model up from a small, plastic-moulded, 00-gauge model railway locomotive – which is an achievement in itself! Unfortunately, we do not have the space to include full constructional details of the model in these pages (indeed, we do not have full constructional details), but Bert Love has prepared the accompanying general description, specially for the MMQ, from notes and illustrations supplied to him by Dr. Catella. If this model is any indication, Dr. Catella must be regarded as one of the leading members of the international Meccano modelling fraternity.

and the lodging of the spokes against each other at the centre. Quite an ingenious and very realistic effect.

Connecting rods are double or triple layers of Narrow Strips reinforced at the wheel crank positions by short standard Strips. Cranks attached at these points provide crank pin bearings, and counter-weights are added to the appropriate wheels by using one, or two 4" Curved Strips which are simply trapped under the Circular Girders, as can be seen in Figs. 1 and 2.

BOILER FITTINGS

The boiler fittings are largely self-evident from the photographs. Steam domes are formed from Wheel Flanges, six at a time, held by short Screwed Rods to the top of the boiler and capped by a Conical Disc bolted to a Threaded Boss inside. Safety valve housings are pairs of Boiler Ends, similarly capped, but fitted with now-obsolete Buffers (Pivot Bolts make suitable substitutes for these obsolete parts). Rods and Handrail Couplings serve as steam whistles, etc.

Sand boxes are mounted on either side of the pressure domes at the top of the boiler and these are made from Girder Brackets enclosed with 1" Angle Brackets and strapped across the top of the boiler with 3" Narrow Strips. Spring Cord 'sand pipes' run down the boiler sides from the sand boxes and are trapped by 1½" Strips bolted to the boiler in line with the top edge of the saddle tanks. In the prototype plastic model, these saddle tanks showed a diagonal rivet pattern and this has been reproduced in the model by bolt heads set in Flat Plates, see Fig. 1. For those modellers who prefer a non-perforated saddle tank, however, Strip Plates or Flexible Plates, suitably lapped to give the 18½" x 3½" cover required, should be used, or a series of 3½" x 2½" Flexible Plates. The diagonal pattern could then be simulated by overlaying some Narrow Strips.

Flat Girders form the tops of the saddle tanks on either side and these are reinforced with short lengths of Flat Girders at the appropriate filling points. Just forward of the saddle tanks and very clearly shown in Fig. 2 is the very neat steam pipe casing running from the side of the boiler down into the cylinder chest. A pair of 2½" x 3" Triangular Flexible Plates are rolled into the required shape with great effect. A sandwich of 5½" x 2½" Flat Plates make the platform above the cylinder chest and three 2½" Stepped Curved Strips form 'packing' for the steam pipe.

Extensive use of Handrail Supports, Axle Rods, Rod Connecters, Threaded Couplings, Crank Handles and Flexible Coupling Units provide excellent detail work on the boiler fittings. A conical chimney is modelled from 3½" x 2½" Flexible Plates, topped by some Electrical Brass Strips and tapered at the base connection to the

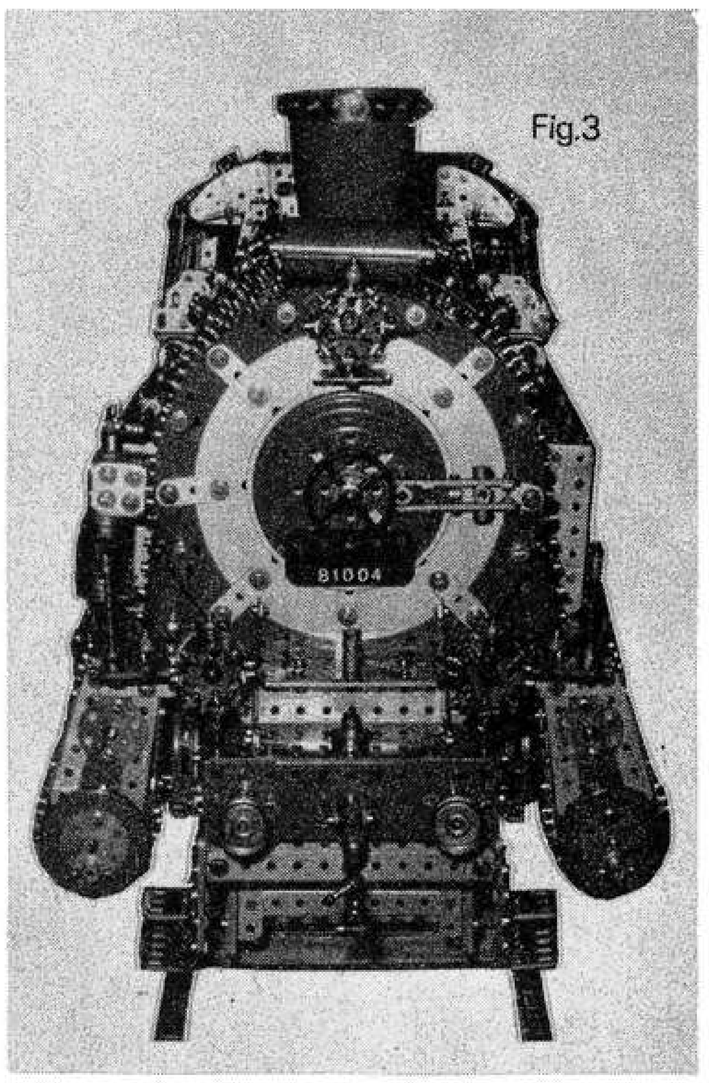


Fig.3

A front view of the Locomotive showing details of the smokebox door and buffer beam. The Engine Number, incidentally, is produced in 'Dymotape' and stuck to a black electrical Insulating Flat Girder. The same Number also appears on the cab sides and bunker back.

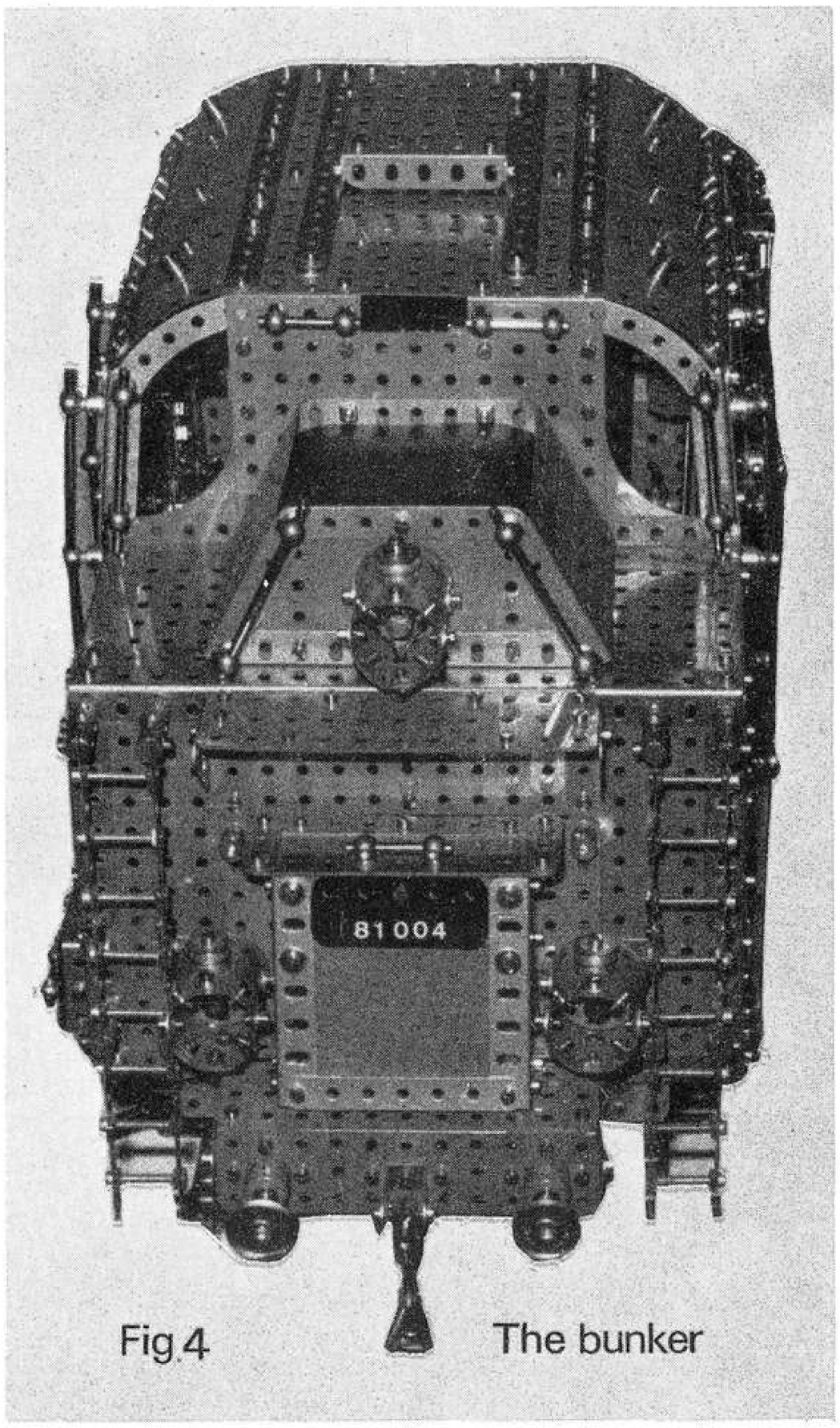


Fig.4 The bunker

boiler by pinching in the overlap of slotted holes in the Flexible Plates.

SMOKE BOX

Details of the Smoke Box are shown clearly in Fig. 3, where the 7½" Circular Strip defines the boiler diameter. Main filling is by a 6" Circular Plate, but this is backed up from behind by eight 2½" Semi-circular Plates overlayed at the front by 1½" Strips. Additional centre thickness is provided by a 4" Circular Plate which can be clearly seen in Fig. 2 where the arrangements for hinging the Smoke Box door are also shown. A Threaded Pin is inserted from the rear of the Ball Thrust Race Flanged Disc forming the Smoke Box door, and this Pin is packed by a ½" Pulley before securing a Steering Wheel to it. Pairs of 2½" Narrow Strips, bolted together, form the upper and lower hinge straps and these are attached to the Flanged Disc via a Threaded Boss. A Threaded Coupling is mounted on the boiler front to form the hinged post and a short Rod, held in place by Collars, allows the hinge to swing on the end transverse bore of the Threaded Coupling. An extra Collar is inserted between the Narrow Strips as a spacer.

LAMPS

For the six lamps carried on the locomotive, 2½" x 1½" Flexible Plates are used, a pair at a time, to form the cylindrical lamp housing, the rear end of the housing being secured by two internal ½" Angle Brackets to 8-hole Wheel Discs. The upper front lamp is carried on a boiler (made from 1½" Flat and Angle Girders) to which the lamp is fixed by a ½" Bolt packed with Washers. Carried below each of the two lower lamps is a Rod Socket which is attached to a Threaded Pin above the buffer beam. Rear lamps are mounted on simple stand-off brackets.

In Dr. Catella's model each lamp housing carries a miniature Edison screw lamp holder and appropriate wiring. All lamp housings are finished off with two ½" Pulleys bolted to the top centre hole.

BUFFERS & COAL BUNKER

Buffer beams front and rear are formed on 5½" Angle Girders and, for U.K. builders, a 5½" Strip may be used between the shorter flanges of the Angle Girders to give the three-hole depth. Buffer plates – 1½" x 1½" Flat Plates – reinforce each end of the buffer beam and carry Double Arm Cranks behind. Each buffer is made from a 1" fixed Pulley on a 2" Rod fitted with a Compression Spring and Washer and passing through a loose chimney Adapter and held in place by a Collar behind the boss of the Double Arm Crank. Fig. 4 shows the same construction at the rear.

Main frames, as in the prototype, run from front to rear and are made from 24½" Angle Girders and rows of 5½" x 2½" Flate Plates on each side, extended where necessary by 1½" x 1½" Flat Plates at each side of the buffer beams. Footsteps are provided at the front and cab positions by short Flat Girders and Strips fitted with Angle Brackets. Each buffer beam has additional reinforcement in the centre, provided by Wheel Discs bolted in place, these carrying a 1" x ½" Double Bracket to carry the train coupling.

The coal bunker, shown in Fig. 4, has a width of 9½", a pair of 4½" Angle Girders spaced apart by one hole providing the top rear edge. Above this, a tapered coal chute is made from tilted 3½" x 2½" Flanged Plates bolted to 5½" Girders at the base and to 3½" Strips at the top, filling being achieved by two 2½" x 1½" Triangular Plates on a 3½" x 2½" Flexible Plate. The rear end of the model is fabricated from various Flat Plates, as shown, and twin ladders are fixed to Slotted Couplings on Threaded Pins that are attached to the platework. Narrow Strips, 5½" long, are locked to form 8½" ladders, rungs being provided by 1 1/8" Bolts, lock-nutted in place.

VALVE GEAR & GENERAL DETAIL

Looking generally at the model for those features not already mentioned, valve gear is provided as shown in Fig. 1 and 2, the quadrant reversing arm being connected by levers to the cab controls, small Flanged Wheels and general brassware provided a detailed array of cab fittings. The main piston guides are slung from a four-Strip hangar bolted to the saddle tanks and Slide Pieces, plus a Collar and a Pivot Bolt, provide the cross head. Operating brake shoes are hung below each wheel and are coupled by levers to a hand wheel screw mechanism in the cab. It should be noted, incidentally, that crank points on the wheels are not in the holes of the Wheel Discs, but are slightly off-set by Collars or Threaded Bosses set inbetween spokes.

Hinged doors are provided for the cab, and handrails are placed at strategic points all over the model. A water pump on the right-hand side of the boiler front is made from stacked loose 1½" Pulleys, while suitable Axle Rod links, with Sleeve Pieces, provide boiler feed lines.

For demonstration purposes, the entire model is raised from the track and driven by a mains Motor. Running or stationary, however, the locomotive makes an extremely impressive display item.

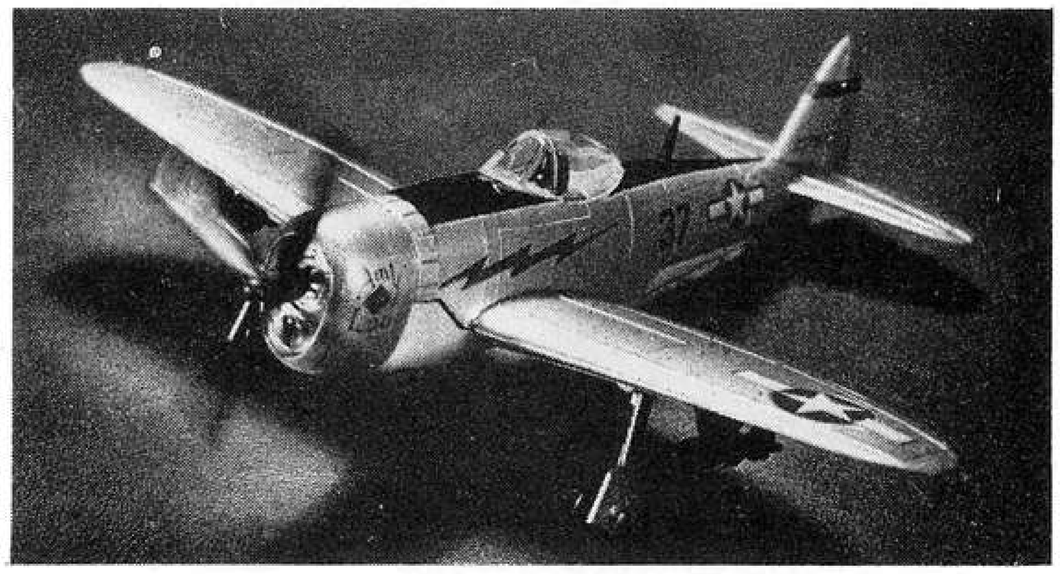
DINKY TOYS NEWS

A look at the new Dinky Toy models released since the last issue of "Meccano Magazine Quarterly".

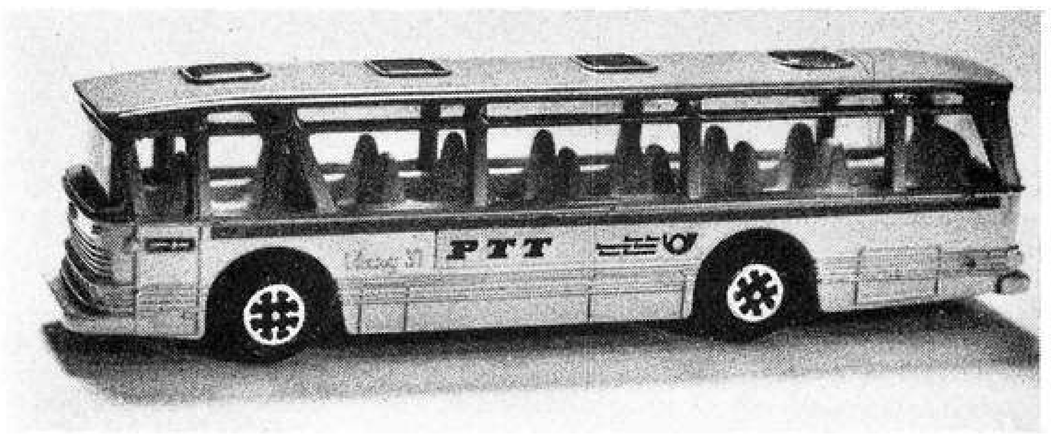
Above, No. 656, 88mm. Gun – the famous German "Eighty-Eight" of World War II. Fitted with removable bogies for travelling, the gun rotates through 360° and is elevated by means of a small control knob. With the bogies removed, outriggers fold down to provide a firm firing base for the gun, which is breach-loaded and fires harmless plastic "shells". Produced to 1/35th scale and measuring 218mm. in length, overall finish is in German military green with a black chassis, outriggers and towbar.

Above, a rear view of the new Ford Transit Fire Appliance No. 271.

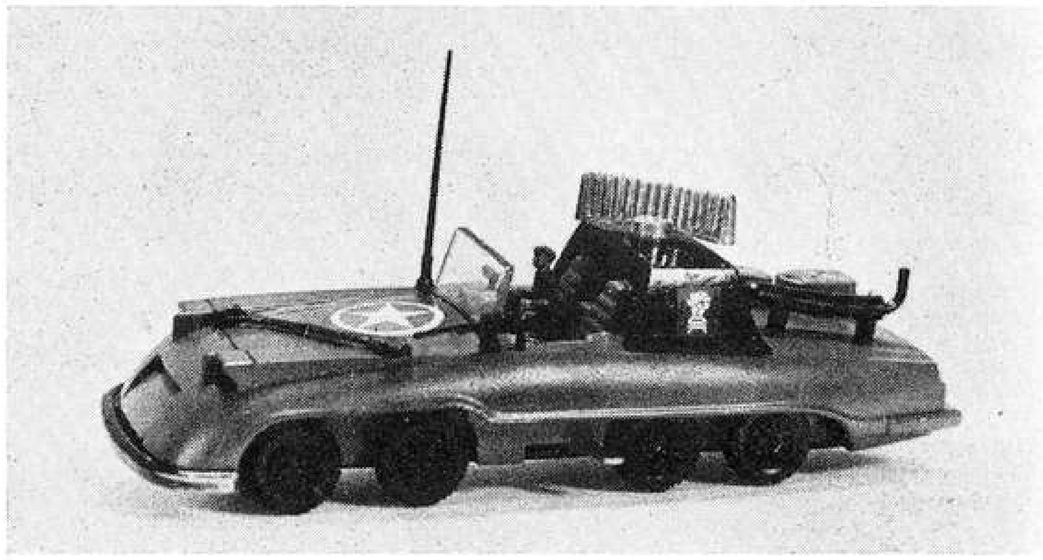
Although a Transit Fire Appliance has been included in the range for some time, this version makes use of the new Ford Transit casting produced for the recently-released Motorway Services Van. Slightly larger than the old version, it has a lifting tailgate, as opposed to the original's traditional opening rear doors. All other features remain: extending hose with automatic rewind mechanism, removable ladder, suspension and an opening side door carrying, on the inside, two removable 'hatchets'. Also featured are a moulded interior, a pump console representation, two simulated bells, jewelled headlamps and an aerial. Produced to 1/40th scale, the new model (which replaces the old) measures 129mm. in length.



Above, No. 734, P.47 Thunderbolt. Produced to 1/65th scale the model has a wing span of 190mm. Casting detail is prolific and even incorporates a pilot-figure representation for added realism. Working features include a battery-powered, flick-start motor driving a four-bladed propeller and a retractable undercarriage. Other features include a clear-view "bubble" canopy, an aerial and a simulated bomb under each wing. Finished in silver with a black dorsal stripe, it carries "Allied Forces" decals. Comes complete with a sheet of transfers for self-mounting, allowing two alternative squadron liveries. Below, No. 293 Swiss PTT Bus, formerly produced as an 'export special' exclusively for the Swiss market, but now on general world-wide sale. Outstanding features include a crisp, petite body casting abundant in fine detail, an interior moulding, a pale amber window/skylight moulding and low-friction Speedwheels. Produced to a scale of 1:99 and measuring 119mm. in length, overall finish is in chrome yellow with a matching pale yellow roof and 'PTT' identification labels and a red stripe on either side.



Below, No. 602 Armoured Command Car. Built around a big solid body casting, this model ingeniously simulates machine gun fire with a clockwork spark producing/gun noise mechanism, and also sports a rotating radar scanner which also serves as a key for the clockwork motor. Additional features include a moulded windscreen, a realistic interior moulding, jerry cans, an external exhaust, a towing hook, a towing cable, an aerial and eight Speedwheels. Measuring 157 mm. in length, overall finish is in olive green drab with a grey interior, silver radar scanner, black scanner support and ancilliaries. The model sports 'Allied Forces' decals.



MECCANO CLUB ROUNDUP

All Meccano Clubs are invited to submit reports for these pages. Reports should be approximately 350 words long, and should reach us by the end of the second month before month of publication.

HENLEY SOCIETY OF MECCANO ENGINEERS

WAS IT the aura of the annual 'Henley Meccano Exhibition' or the oak panelling of Henley Council Chamber, or, simply, the excellence of the models and the agreeable company that made the meeting on 10th May so enjoyable?

One outstanding model was Clive Hine's Sky Diver: fairground machinery represents a kind of definitive Meccano modelling medium because of its component construction. What is more difficult is capturing the decorative element and interpreting it in Meccano. Clive has done both superbly well. His model is some 5ft. in diameter with over 90 pre-constructed sections, all neatly packed away in suitcases exactly as if they were showman's trailers. For an hour, Clive was building up his model, the red/green and red/yellow sections slipping into place; the switch was thrown and the whole machine burst into life, light and sound. Even the music was, if you will excuse me, the very rock bottom of correct fairground taste!

Peter Wilson showed a programmed Mechanical Shovel. This is the kind of model that should be given a wider audience than club meetings, as it sports such features as a gearbox and a programming unit which lifts out complete, simply by releasing one Set Screw.

Keith Orpin showed a highly-nostalgic G.M.C. 2½ Ton Army Truck with 4 forward, 2 reverse gears, front winch and all the amazing suspension of the original vehicle. Ernie Chandler's improved S.M. Railway Crane, and Bill Roberts' Loom were also worthy of mention.

The high spot of the evening was a second showing of 'The Big Lifters', a film about the American Crane & Hoist Company's Giant Cranes for the Greythorpe, Hartlepool site. Displayed alongside the screen was a beautiful model of one of them by Tom Marlow.

Our competitions always seem to bring out a slightly dotty streak in the members – this was no exception. Asked to build a No. 3 Set model, Tony Knowles made a 'Man on a Treadmill', thereby walking off with the prize! Esmund Roden was runner-up with a rather more conventional Great Orme Cable Car, complete with cable and winch.

Alf Reeve

Comment from Meccano Limited: *We understand that concern at the current shortage of Meccano spare parts was also expressed at the meeting. We are acutely aware of this shortage and fully understand the frustrations of enthusiasts. The shortage has been caused by an exceptional international demand for Meccano Sets over the past 12 or 18 months which has made it necessary for us to use almost our entire Meccano production for packing into complete outfits. However, with the summer trend towards outdoors activities, the demand for Sets is easing and we are now able to turn our attention more to the production of Spare Parts for separate sale. The situation is already improving and we are confident that a state of near-complete availability will be reached in the foreseeable future.*

HOLY TRINITY MECCANO CLUB

The thirteenth meeting of the Club took place on 26th April, at the Parish Church Hall, Hildenborough. Tony Homden welcomed all present, and expressed satisfaction at both the quantity and quality of all the models which were brought along to the meeting.

Club Treasurer, Frank Palin, then gave a short resumé of the state of the Club's finances, and proposed that a bank account be opened to hold the funds. It was finally decided that the funds would be deposited in the Trustees Savings Bank, as they run a special scheme for Clubs and Societies such as ours.

Having completed the business side of the meeting, we then moved on to talks and model demonstrations by individual members.

Space unfortunately does not permit detailed mention of the many models shown, but, in brief, Michael Martin showed a Mechanical Shovel, Stuart Day a civilianised Artillery Tractor, Bill Roberts a Loom, Phil Bradley a Level-luffing Crane and Peter Wilson a Face Shovel. Peter Roberts had a Postborer and an American Half-track Combat Truck made from "mixed" Multikit Sets, whilst James Dowdswell demonstrated a full-illuminated Tower Bridge and Robin Schoolar a novel Ping Pong Ball Machine and three Locomotive Devices. Final models to be demonstrated were a Road Grader by John Burk, a Cable Car by Chris Taps and, finally, Michael Edwards showed his Austin 7 model, the automatic gearbox from which appeared in the January 1975 MMQ.

Having completed the talks and demonstrations, a tea interval was taken during which members meandered among the many other models which were on display; these included an Automatic Warehouse by Frank Palin, a Locomotive by Geoff Davidson, a Showman's Loco by Keith Orpin, a Fairground "Torpedo" by Michael Mildenhall and a Meccanograph by Bert Halliday.

Members of both the Henley Society of Meccano Engineers and the Henley Society of Junior Meccano Engineers also showed a creditable display of models, particularly noteworthy being an Aerial Steam Carriage by Mike Nicholls and Steam Yacht by Geoff Wright.

The meeting finally broke up at 7 p.m., and a special word of thanks goes to Vi Palin who prepared most of the refreshments, and also to the willing band of ladies who helped with the dispensing. Also, a special thanks to Win Roberts who swept the hall after us, and to Peter Roberts who put most of the tables away.

Tony Homden

(Tony Homden has now moved from Hildenborough, his new address being 36 Wilmington Close, Woodley, Reading, Berkshire. Tel: Reading 696297).

IRISH MECCANO CLUB

Further to the announcement of our intended formation in the April 1974 MMQ. I am pleased to say that we now have a membership of seven keen enthusiasts and, temporarily, have called ourselves the 'Irish Meccano Club'.

The inaugural meeting of the Club was held in the home of Mr. Ronald Wayte, Foxrock, County Dublin on 4th April this year. Four Members were present, the other three asking to be excused due to previous commitments.

Models were, of course, in evidence, Ron Wayte presenting a partly-completed Traction Engine which was beautifully constructed using parts from different colour periods. Bobby Johnston brought along a Steam / Excavator which he had adapted to use the current Steam Engine. I, myself, brought along a Gearbox which I had used in a Hammerhead Crane and a Half-track Truck using a Multikit Cab and standard parts. David Sheridan was unable to bring along a model as he had to travel by train.

Refreshments were kindly supplied by Mrs. Wayte, and nothing was spared! The next meeting is planned for September, when I hope to have a collection of photographs and slides to show (for which any material supplied on loan would be most welcome). We hope to hear of new recruits in the meantime, and those interested should contact Terry McCabe, Cliffoney, Co. Sligo, Eire, or telephone (071) 76128.

Terry McCabe

PENNINE MECCANO GUILD

THE JUNE meeting of the Pennine Meccano Guild brought members from as far afield as Wigan and Sheffield, despite glorious sunshine! In all, eighteen modellers were present and a fine collection of models assembled.

A most welcome visitor was Mr. F. W. Hudson, Meccano Limited's Yorkshire Sales Representative, who gave an interesting talk on progress at Liverpool, and answered members' queries (and complaints) with considerable patience.

The models on display were easily categorised this time, and there were no less than five Excavators, the largest of which was Mike Pashley's Giant Marion 6360 Shovel, now complete. This model has many advanced features, not least of which is an efficient solenoid-operated winding drum brake: I hope we will see this mechanism in a future MMQ! Mike also showed a small-scale Insley Dragline of some 30 years ago; this model travelled and steered most realistically on Plastic Meccano Flexible Track. Stephen Pashley brought along a neat Gantry Crane, in addition to acting as second engineer to Dad!

P.M.G. Chairman, Norman Chapman, demonstrated a S.M.L. Dragline Excavator – only one of the several supermodels he has completed over the last few months. Cranes were also the subject for John Hornsby, Ian Baxter and Peter Robin.

Vehicles were well represented at this meeting. David Fairbanks' No. 10 Set Double Decker Bus looking fine in yellow livery. The Secretary showed his Scammell Tank Transporter Tractor, soon to become a fairground generating set. Michael Walker brought one of his beautiful American Car models, this particular one featuring Mike's automatic headlamp scheme as seen in January's MMQ.

Alan Grimshaw and Norman Mason both brought Designing Machines (Meccanographs), and Norman also let us see the early stages of a Loom he has started. Finally, John Russell assembled an 'Octopus' Fairground Ride which, when required to travel, could be packed neatly on to a three-level trailer.

The meeting ended with refreshments served by Edna Chapman. The schoolroom at Linthwaite was then filled with models and the membership agreed that it was a most successful meeting.

The P.M.G. will be part of a general model-making exhibition at Yeadon Town Hall on September 27th, and we are all eagerly looking forward to them.

Bill Charleson

SOCIETY OF ADVANCED MECCANO CONSTRUCTORS

Although this is the "closed" season for the S.A.M.C., there is still plenty of activity going on behind the scenes as the members who can display at Henley are preparing their models for this and other Summer exhibitions.

Close to the S.A.M.C. headquarters in Hall Green is the home of Roger Wallis – this year's Chairman – who is co-ordinator for the Society's exhibitions, and we expect to have our own stand at the Stoneleigh Summer Festival in Warwickshire and also at the Meccano Exhibition at Henley-on-Thames.

Contributions from Society members continue to appear on a regular basis in both the M.M.Q. and the new 'Meccano Engineer'. Furthermore, a selection of their models were recently published in 'Speed & Power' magazine, at the request of its editor. The particular issue was No. 56, April 11th – 18th, 1975.

Bert Love, Hon. Sec. of the S.A.M.C., was invited as a guest to the Whitsun meeting of the 'Paris Meccano Club' – a delightful weekend congress at which Bert was made very welcome and treated with the greatest hospitality by the fraternity of French Meccano enthusiasts. A full report on this meeting will appear in various Meccano publications in due course.

B.N. Love

STEVENAGE MECCANO CLUB

On March 25th, the S.M.C. was invited to a 'Film Show and Model Display' held by the Vauxhall Motors Recreation Club (Meccano Section) at Luton. Twelve Club members attended and it would take several pages to describe all they saw, but special praise is due to Geoff Pratt for showing three films about models he has built. Particularly popular was a film about his robot – OSCAR 1 – and the antics it performs: Geoff hopes to attend a forthcoming S.M.C. meeting to tell us more about the workings of this wonderful model. S.M.C. members displayed several of their own models at this meeting, notably Neil Alston and his son Clive who showed a wonderful range of farm equipment built from various old and modern Meccano Manuals, and Peter Brown who took along a fine remote-controlled Tank. The 'Bedford Model Engineering Club' also attended and exhibited some interesting models.

We would like to thank Mr. Frank Piggott, Secretary of the V.M.R.C., for a wonderful evening and wish their Meccano Section every success in the future.

On 17th May, 14 Club members put on a display of 34 models at the Etonbury School, Stetfold and raised £6 in aid of the school's Swimming Pool Fund'. Peter Neville had made up the model Destroyer described by Bert Love in the April M.M.Q.: Stephen Kuc and Adrian Ogden combined their efforts to build a model Radar Scanner. Meccano leaflets were distributed to the many interested onlookers.

The S.M.C. is looking forward to visits from the Henley Club (both Junior and Senior Sections) and the Holy

Trinity Club for a joint model display at Nobel School, Stevenage, on July 19th.

NEW MEMBERS

Adults	Geoff Pratt (Luton)
Boys	Christopher Marshall (Stevenage) Robert Chillingworth (Stevenage) Neville Alston (Letchworth)

Neville belongs to a real Meccano family – both his father and brother are already S.M.C. members, and although Neville's eyesight is rather poor, this fortunately doesn't stop him enjoying model building.

Finally, several people have written to Club Secretary, Dennis Higginson, at 7 Buckthorn Avenue, Stevenage, Herts, asking for more details of the Stevenage Meccano Club. In short, the Club was formed in 1969 and is divided into Groups A, B, C and D, each meeting once a month, the adult Group Leaders being P. Brown, J. Foord, B. Dunkley and D. Barton. Activities include: general model building with occasional displays at local fetes; lectures on several subjects (including electronics); outings to otehr clubs; exhibitions etc.

John Foord

TRANSVAAL MECCANO GUILD

The seventeenth meeting of the Guild was held on 22nd of March, 1975.

To begin the meeting, the new Combat Multikit was shown to members and, judging by their reactions, this new Set will be a winner! Next, photographs of Bill Rudings' partially-completed Mobile Drilling Rig were examined by members, and this should be a first-class model when finished. Abie Koegelenberg gave his second lecture on 'Meccano and Electricity', this time dealing with the Battery Box, power units, rectification, generators and Meccano Motors. Finally, members were given copies of the latest Meccano literature, and also a set of literature for the newly-formed 'Junior Meccano Guild' here in South Africa.

The eighteenth meeting of the Guild was held on Saturday, 31st May, and at the suggestion of Paul Hatty, talks on members' models were resumed. Paul gave a most interesting description of his 2 ft. square base for a Bucket Excavator, and Bill Steele did a veritable 'Aladdin', by producing new nuts and bolts from old in a cleaning and de-rusting machine. He then went on to describe his Meccano "finds" whilst in France recently, most of which have now found their way into the Meccano Nuseum, thanks to Bill.

As the Guild gets larger, and its commitments more numerous, I suggested that a Committee of four be selected to help run things; Paul Hatty, Abie Koegelenberg, Frank McClement and Bill Steele were duly elected and, together with Martien DeKoster as Treasurer and myself as Secretary, we have six in all. From a suggestion from the floor by Lionel Chimes, members agreed that the Secretary should be designated Secretary and Chairman. Membersaagreed upon this, and I regard this as a vote of confidence and thank all concerned. Frank McClements then proposed a vote of thanks to Ann Matthews and myself.

The date for the next meeting was fixed for the 26th Ju,y, 1975.

Peter Matthews.

(Anybody interested in joining Transvaal Meccano Guild should contact: P. Matthews, 19 Joan Road, Glenada South, Jhb., S.A. Tel: 830-9433).

PROPOSED NEW MECCANO CLUB

Meccano enthusiasts in the South West of England will undoubtedly be pleased to hear that a fellow enthusiast in the area proposes to form a Meccano Club if response is favourable. The gentleman to contact, if interested, is Mr. M. J. Adkins, 2 Everest Drive, Seaton, Devon, EX12 2EB.

CAPE TOWN CAVALCADE

by Colin Cohen of the Cape Town M.C.

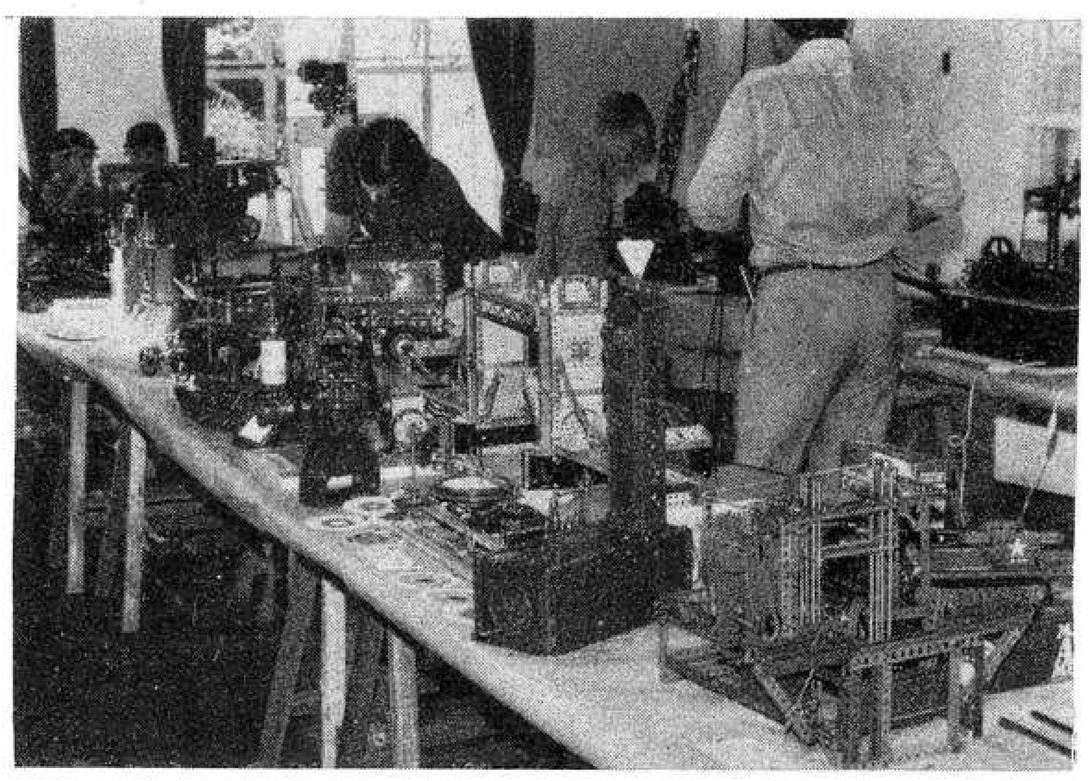
HAVING A collection of models all rearing to go makes things very much easier when it comes to exhibition time, and so it was when the Lady Buxton Home for the care of children and Mothercraft Training Centre approached us to exhibit at their annual fete. This does not mean, of course, that we don't work hard for months beforehand to construct even more models and to make certain that they are all functioning properly, and this time we put some fifty items on display.

The Buxton Home Fete is a very large affair in huge grounds with literally thousands of people attending and therefore it is certainly worth our while going to all the trouble for some five hours.

Tatchell Venn has just returned from an extended trip to England and Europe and was still settling down, their baby, Timothy, making this process all the more difficult, so he did not have the time to produce anything new. Nevertheless, he still had plenty to show. His Clocks kept good time, his traction Engine was a draw-card and the kids went mad over 'Oscar', the walking man! Tatchell's small historical collection is growing, and the 'Blue and Gold Period' was well represented by a Seaplane and a model of the Bluebird Racing Car. He also showed a Bi-plane modelled from an old Aeroplane Constructor Kit No. 12 and still in excellent condition.

His 'Seagull' Outboard Engine was still as good as new after its trip to England and back in a suitcase, and his other models look magnificent. Wife, Pam, strengthened the Venn stables with her neatly-constructed Helicopter, Tug-boat and See-Saw, the latter being built from a Pocket Meccano Set.

Part of the display at the Exhibition giving a good idea of the fine array of models on show.



Cape Town M.C. Chairman Michael Adler discusses his Tramcar with an interested visitor to the Lady Buxton Home Exhibition.

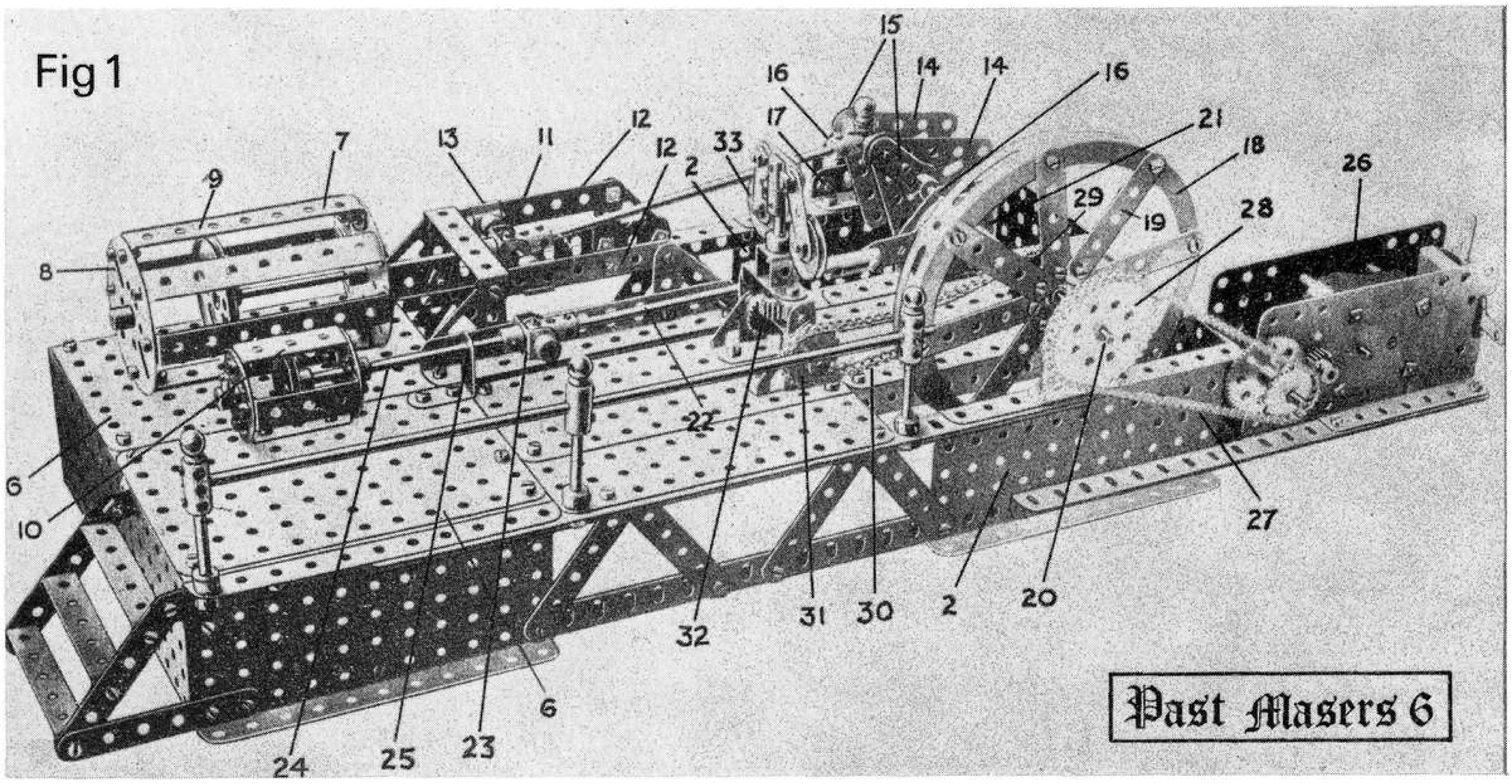
In contrast, Kenneth Leibbrandt had his mammoth Twin-cylinder Steam Engine, a Motor Car Chassis (displaying the engine, clutch, gearbox and transmission, brakes and steering) and the leading end of a 12 ft. long Garratt Locomotive, type GEA, that he is in the process of building. He worked feverishly to get it finished in time for the show and we saw the tank mounted on the chassis with wheels, valve-gear and brakes. This seems to be the beginning of a really magnificent model! His son, also named Kenneth, displayed a Gun constructed from the Army Multikit.

Michael Adler is our dark horse! From having had only three or four models to mention for a list compiled at the meeting two weeks previously, he conjured up some eight models altogether! He had assembled the two Clock kits and also showed what the Multikit Sets could produce. His Meccanograph was kept very busy and his Tramcar rode splendidly along its rails. Richard Schonegevel had his Scammell Tractor, but unfortunately could not be in attendance as he had to participate in an Army Parade. He also specially constructed a Meccanograph which was kept very busy. Meccanographs are really a 'must' at exhibitions!

Anthony Hall, who looks so embarrassed and maintains he 'hasn't the time' whenever I approach him about joining the Club, somehow always finds time to help out with a model and this time he produced Tower Bridge, beautifully interpreted in silver, yellow and black. I showed my 6 ft. high Level-luffing Crane with Remote Operating Console and there was also my 10 in. long Leyland Double Decker Bus on 1" wheels which is complete with steering, suspension, staircase, seats and handrails, top and bottom. I also showed my Fairground Octopus, modelled in red, green and checkered blue. By operating a lever at any time, the eccentric to raise and lower the arms will stop rotating only when the arms are at their lowest position over the alighting platform. Operating a second lever disengages a clutch to stop the whole thing in order to change passengers. My Beam Engine, which operates for about one minute when a coin is placed in its slot, did its share in raising money for the Fete.

These are by no means all the models on display, of course; just some of the more noteworthy from each of the exhibitors. The display was set up on the Friday evening on Trestle tables covered with yellow paper. The tables were arranged in a rectangle in the centre of the room with "us" inside and the public circulating round the outside. There was a shortage of tables, but there is always a way out of difficulties and we eventually got everything set up and working for the next morning, with our signs and posters adding the finishing touches to a magnificent display.

Single-Cylinder Horizontal Steam Engine



FOR OUR 'Past Masters' subject this issue we again delve back into the pre-war years; into the era of the famous Super Model Leaflets. Here we have Super Model No. 11 Single-cylinder Horizontal Steam Engine – a very popular model in its day and one which gives tremendous fun when set in motion.

Although the original version made use of some parts which are now obsolete, it can be easily modified for current components as described at the end of the article. As is our custom, however, we give a slightly revised version of the original building instructions so that those enthusiasts who do have all the 1928 period parts may construct the model to the original specifications. The accompanying illustrations are also reproduced from the original Model Leaflet.

BASE, CYLINDER & CROSSHEAD

Fig. 3 shows the sturdy base frame on which the model is mounted, the covering plates having been removed for the sake of clarity. The 12½" Angle Girders 1 in the base are bolted at each end of the 5½" x 2½" Flanged Plates 2, and the 12½" Angle Girders 3 are attached to the top flanges of Plates 2. The ends of the base unit consist of four 3½" x 2½" Flanged Plates 4, their flanges being bolted to Plates 2. Each long side of the frame work is braced with four 3" Strips 5.

The 12½" Angle Girder 49, fastened to one of the Plates 4 by an Angle Bracket 50, forms one side of the slot in which the flywheel 18 turns. It is fastened at its other end to the Flat Plates 6. These Plates should be secured in place as soon as the base unit is completed. Three 5½" x 3½" and two 5½" x 2½" Flat Plates are used, as shown in Fig. 1.

Cylinder 7 is constructed from two Face Plates 8 and 3½" x ½" Double Angle Strips 9. The valve casing 10 consists of two Bush Wheels and four 1½" x ½" Double Angle Strips, a 1" fixed Pulley being placed in the casing prior to fastening the Strips to the Bush Wheels. The casing is secured to the bed plate by Nuts and Bolts.

Next to be built is the crosshead 11 which is shown in detail in Fig. 2. The slide-bars are supported at their ends by Corner Brackets 38 which are bolted to 5½" Angle Girders placed one on each side of the opening in the bed frame, as can be seen in Fig. 1 The crosshead framework is strengthened at the end nearest the cylinder by means of a 2½" x ½" Double Angle Strip bolted to two of the Corner Brackets.

To the slide bars 12 is attached the slidable portion of the crosshead which consists of a Large Fork Piece 36 fastened to the end piston rod, and a Coupling 37 pivoted in the end of the Fork Piece by means of a 2" Rod 34. When passing the Rod through the Fork Piece and Coupling, two Washers should be slipped on each side of the Coupling to retain it in the correct position in the centre of the Fork Piece. Eye Pieces (now called Slide Pieces) 13 are fitted on to each end of Rod 34 and arranged to engage slide bars 12.

CRANKSHAFT

Coming to the crankshaft and flywheel, the bearings for the crankshaft

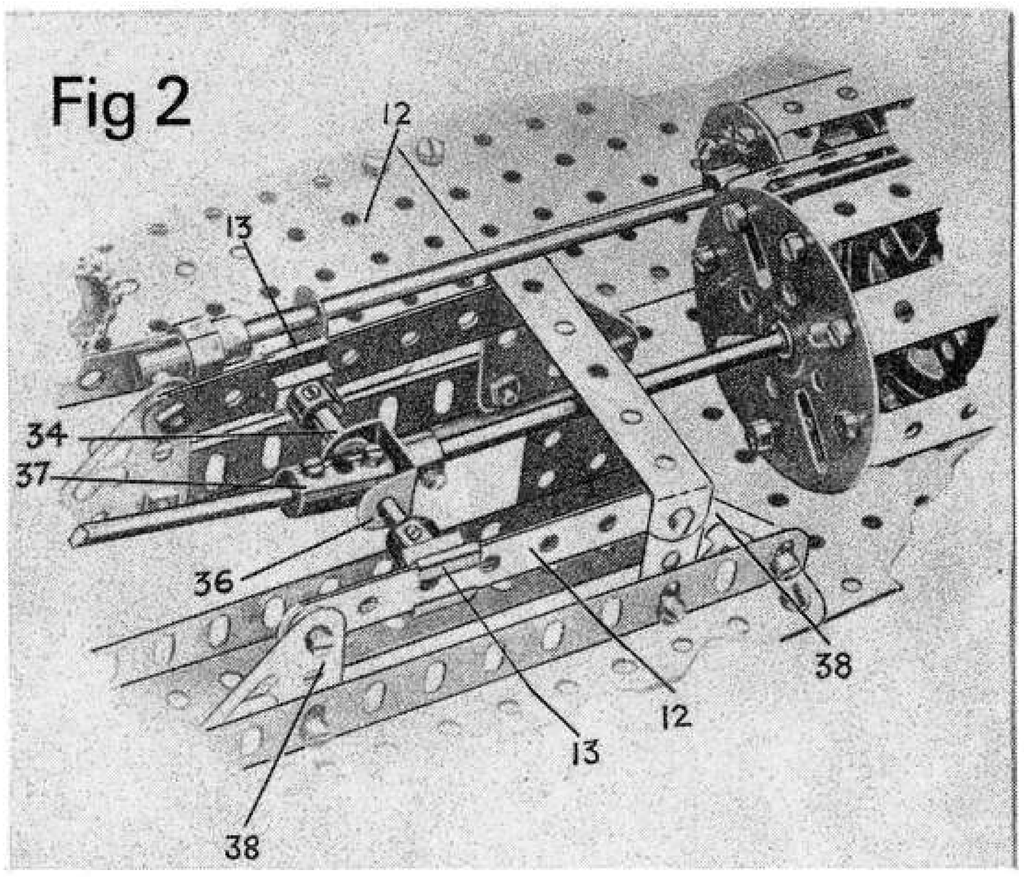
consist of two Flat Trunnions 16 secured to 1½" Angle Girders 17 which, in turn, are bolted to the flanges of Plates 2. The flywheel consists of a Circular Girder 18 connected by 2½" Strips 19 to a Bush Wheel fastened to shaft 20. (A Hub Disc will serve equally well for the flywheel.) The Bush Wheel is adjusted so that the edge of the Circular Girder has plenty of room to turn freely in its slot.

A detailed view of the crankshaft is shown in Fig. 4 Each crank arm consists of two Cranks 15 and 40, bolted one on each side of a 2½" Triangular Plate 14. The inner end of the 2" Rod 39 is secured in Crank 15 and the inner end of 5" Rod 20 is gripped in the boss of the corresponding Crank 15 on the other crank arm. The crank pin is a 2" Rod 41 secured in the bosses of Cranks 30.

The end bearing of the connecting rod consists of a Coupling that is free to turn on Rod 41, the Grub Screw in its end having been removed. A Handrail Support 42 is inserted in place of the Grub Screw, four Washers 43 being placed on its shank to prevent the latter touching the crank pin 41. By removing the Handrail Support, the crank pin may be lubricated. The purpose of balancing the crankshaft by securing the Triangular Plates 14 to the crank arms is to ensure smooth rotary motion of the engine.

A 1" Sprocket Wheel 29 on Axle Rod 20 is connected by Sprocket Chain 30 to the 1" Sprocket Wheel 31 driving the governor mechanism. A Triple-throw Eccentric is also fastened to Rod 20, the ¾" throw being used. This eccentric provide the reciprocating motion that actuates the piston valve rod, to which it is joined in the following manner: a Strip

Opposite page, Fig.1 a general view of the Single-cylinder Horizontal Steam Engine reproduced from the original 1928 Super Model Leaflet. Right Fig. 2, a close-up view of the cross-head, also showing the end of the cylinder. To quote the original leaflet, the model "affords an interesting demonstration of the principles of a simple steam engine."



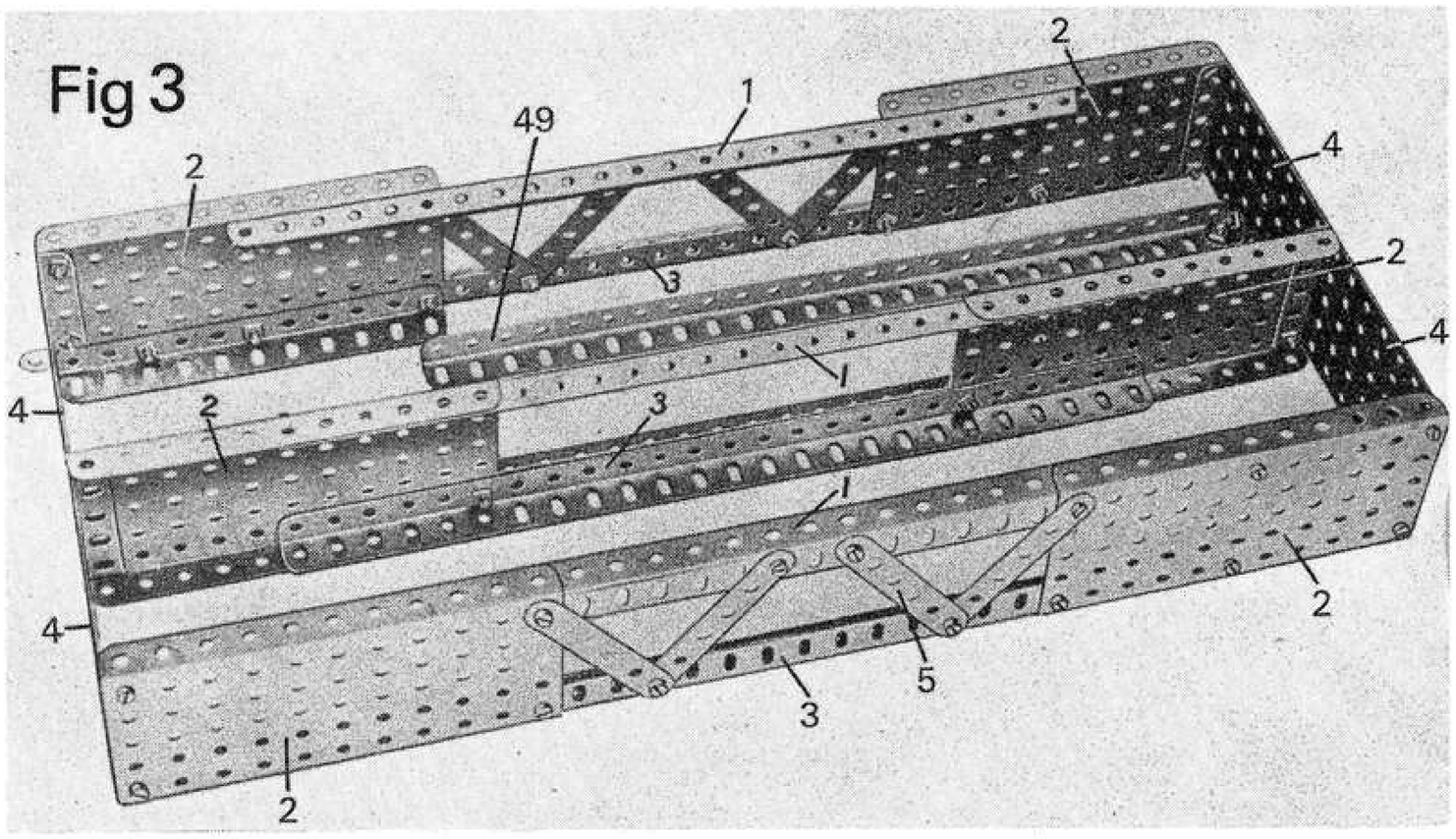
Coupling is pivoted on a 3/8" Bolt passed through the end holes of the Eccentric arm, then a 5½" Rod 22 is fastened to the Strip Coupling. Rod 22 has a Coupling attached to its other end and this Coupling is pivoted to a Large Fork Piece 23 by means of a 1" Rod held in place by two Collars. A Washer is placed on each side of the Coupling in order to eliminate side-play. Valve Rod 24 is fastened in the boss of the Fork Piece and is attached to the 1" Pulley which represents the piston valve in the casing 10. Rod 24 is supported in a 1" x 1" Angle Bracket 25 bolted to one Flat Plate 6.

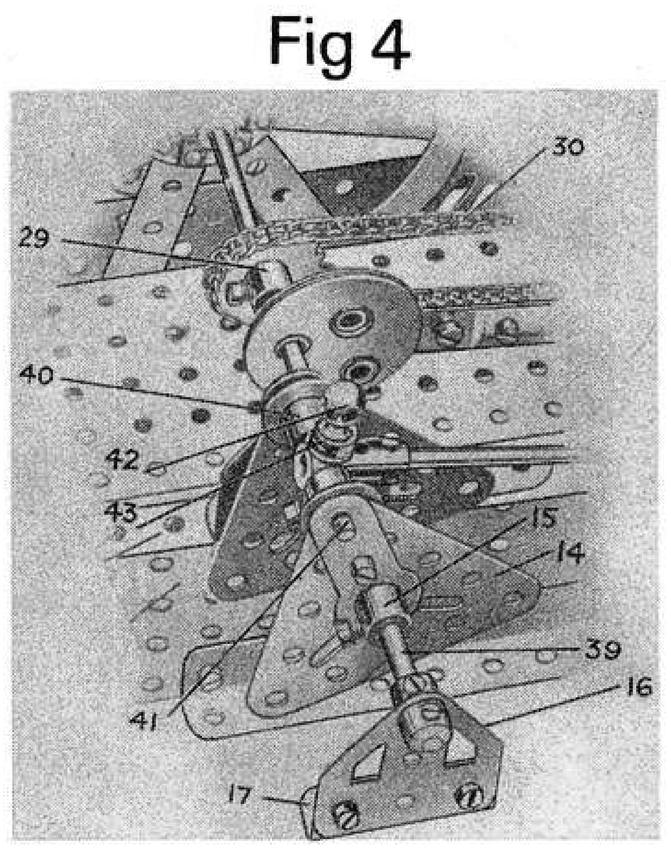
CENTRIFUGAL GOVERNOR

A separate view of the centrifugal governor is shown in Fig. 5. Its support is built up from Trunnions 48 (bolted to one Plate 6) and 1½" Strips 47. A 1½" x ½" Double Angle Strip is fastened to Strips 47 by 3/8" Bolts, Washers being placed between the Double Angle Strip and the Strips to obtain the correct spacing. A 1" Sprocket Wheel 31 and a ¾" Contrate Rod 32 are fixed on a 2" journalled in the centre holes of Strips 47. In mesh with the Contrate Wheel is a ¾" Pinion 46 fixed on a 2" Rod journalled in the 1½" x ½" Double Angle Strip and also in Double Bent Strip 45. A Strip Coupling 44, attached to the upper end of the Rod, carries in its slot the 1½" Strip that supports the governor arms. The latter consists of 1½" Strips pivoted at their upper ends by Bolts and lock-nuts and carrying at their lower ends the Strips by 3/8" Bolts and Nuts. When vertical 2" Rod carrying the governor arms is set in motion and the weights 33 will rise higher and higher as the speed of the engine increases, owing to centrifugal force.

The model is completed by fixing the Electric Motor in position and

Below left, Fig. 3, the bed frame shown inverted. Below right, Fig. 4, a close-up view of the crankshaft.





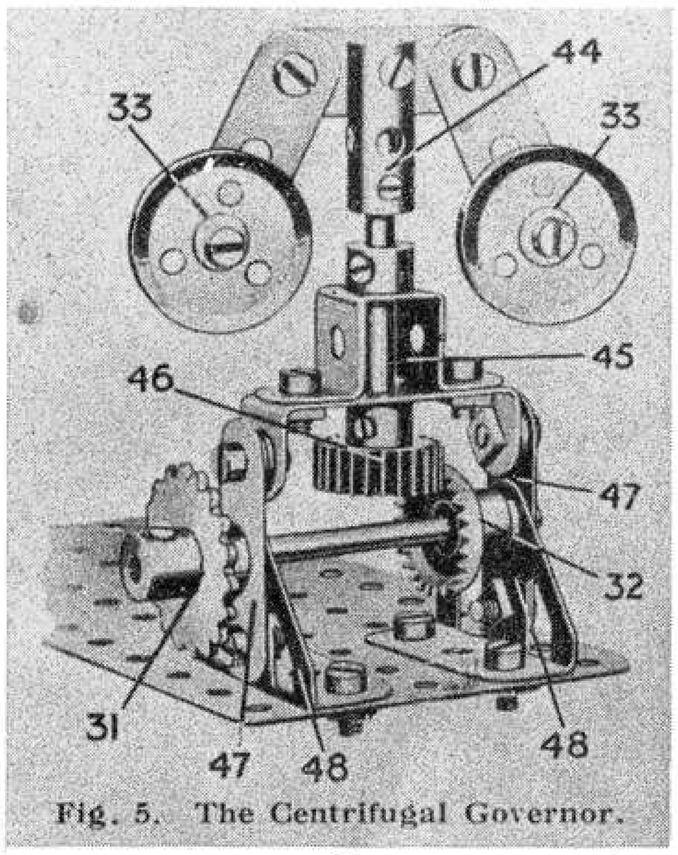


Fig. 5. The Centrifugal Governor.

Fig. 5, the Centrifugal Governor.

coupling it to the crankshaft. The motor is attached to the engine by means of a 9½" Angle Girder at one side and by an Angle Bracket at the other side. The drive from the armature shaft is led through reduction gearing and a Sprocket Chain drive to the crankshaft. The gear train consists of a ½" Pinion on the armature shaft engaging with a 57-teeth Gear Wheel on a secondary shaft and another ½" Pinion on this shaft meshing with a second 57-teeth Gear Wheel which may be seen in Fig. 1. A 1½" Sprocket Wheel on the shaft carrying the latter Gear Wheel is connected to the 2" Sprocket Wheel 28 by means of Sprocket Chain 27.

ADDITIONAL CONSTRUCTIONAL NOTES

Although an old 4-volt sideplate motor is shown as the original driving unit in Fig. 1, the modern Motor-with-Gearbox will drive the model with no additional gearing and it can be mounted inside the bedframe to give an even more realistic motion to the Steam Engine. In this case, the 2" Sprocket on the crankshaft can be located inboard for coupling to the smaller motor.

Sharp-eyed readers will notice that Fig. 2 shows a longer valve rod than that shown in Fig. 1 and a different method of joining the valve rod to the eccentric rod. The arrangement in Fig. 1 is preferred, with the short valve rod connected up by Fork Piece and plain Coupling. If there is any difficulty in aligning the valve rod in its cylinder, the forward Bush Wheel may be replaced by an 8-hole Wheel Disc.

Constructors may also prefer to make use of current parts which were not available at the time the original model was designed. In this case, Flexible Plates may be used as cylinder covers to enclose the rather spartan layout of the original.

Because of the obsolete Flanged Plates used in the original, the bedframe should be constructed from 18½" Angle Girders supported at each end by 5½" x 2½" Flat Plates instead of the old Flanged Plates. This will make the model one inch longer, but this is easily catered for by adjusting the position of the cylinders and the length of the piston rods. Such modifications will put the model well within the range of the current No. 10 Meccano Set.

See page 88 *for Parts Required list.*

HELICOPTER

Continued from page 72.

of all, two lengths of the very thin wire contained in the Electrical Set are connected one to one terminal of each Commutator above the turntable, the two lengths then being fed down through the Ball Thrust Race using the Keyway in the Keyway Rod. From there, they are taken on down, threading the wires through the Angle Girders for neatness, and attached, one to each of two terminals X and Y bolted to an Insulating Flat Girder 35 which is in turn bolted to one of the 12½" Angle Girders in the tower base. Each Terminal is supplied by a ½" Bolt fitted with Washers and held by Nuts in the Insulating Flat Plate.

In the case of the two Motors in the Helicopter, one lead from *each* Motor is "earthed" by connecting it to a nearby metal part of the model, making sure that an electrically conductive connection is made, while the other lead from each Motor, extended as necessary, is brought up and threaded along the rotating beam, where it is connected to one or the other Angle Brackets secured to the outside of appropriate Insulating Flat Plate 26.

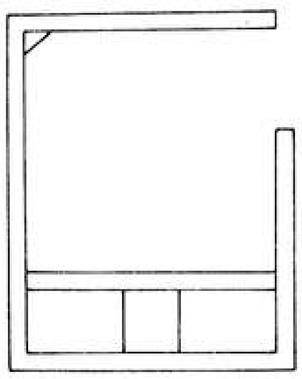


Diagram (not to scale) showing the assembly arrangement of a simple 'flight obstacle' designed to test the skill of our Meccano Helicopter pilots!

Finally, two leads are taken one from each of the Contact Stud terminals of the control switch and are connected to terminals X and Y on Insulating Flat Girder 35.

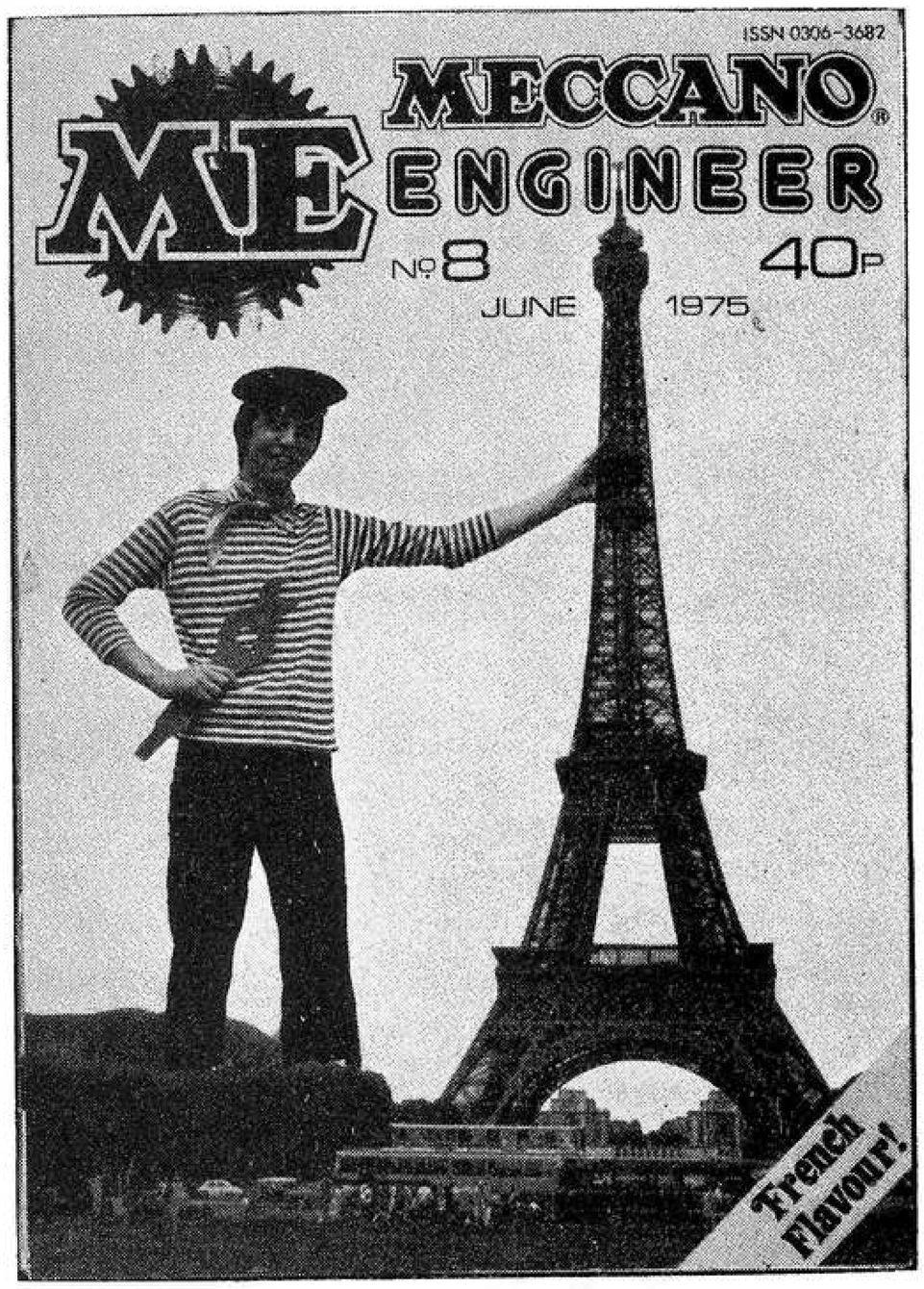
To achieve the best results with the model, a good 12-volt DC power source is required, for which we used a model railway power control unit. One lead from the power source is earthed by bolting it to a metal part of the model's support tower, while the other lead is connected to the Bolt fixing one of the 5½" Strips 33 of the control switch to the Insulating Flat Plate 32 of the control switch. With this done, the model is ready for operation and it will be appreciated that, by using the twin-switch unit described, the two Motors in the Helicopter can be individually controlled from a stop/start point of view. However, if your power source is a reversible current type (i.e. includes a reversing switch), or if a separate reversing switch is built into the circuit between the power source and the model, the Motors in the Helicopter cannot only be stopped and started, but can also be reversed. This gives particularly fine control of the Helicopter.

Using the model, you will find that a fair bit of skill is required to "fly" the Helicopter well and you can test your skill in a number of ways. Mr. Yule, for instance, built a little landing pad to practice precision landings and he also produced a very interesting "flight obstacle", the principle of which is clear from the accompanying sketch. A rectangular Girder-and-Strip structure, with a gap in the nearside to accommodate the rotating beam, the idea is to place it in the flight circuit of the Helicopter and fly the Helicopter through it without crashing. I can assure you from experience that it takes some doing!

PARTS REQUIRED

1- 1b	1-24	2-70	1-193a
10- 2	245-37a	2-89a	1-194
7- 5	236-37b	2-89b	4-194b
1- 6a	80-38	4-90a	2-197
4- 7	8-41	2-109	1-200
2- 7a	1-47	4-111a	2-214
16- 8	1-48	2-111c	2-221
4- 9	4-48a	2-115	1-230
2- 9a	1-48c	4-142c	1-508
4- 9d	2-51	1-146a	1-510
2-10	7-52	2-147b	2-511
5-12	3-53	1-162	2-532
1-13	2-53a	1-168	2-543
1-16	8-59	1-179	2-544
4-22	1-62	2-189	2-551
2-22a	2-62b	1-192	

2 Motors-with-Gearbox



Another '40-page Goldmine'!

ME 8 has a somewhat French Flavour: it contains a feature on the Eiffel Tower written for the Meccano constructor and a report of the Editorial Staff's visit to the Congrès des Amis du Meccano in Paris.

For those who like to build models (!) Bert Love gives a full description of his 10-Set Battleship, and there are also plans for a novel Excavator.

For the historian, the obsolete loom and printing machine parts are reviewed.

There's lots more as well, all of which makes another "40-page goldmine of Meccano interest".

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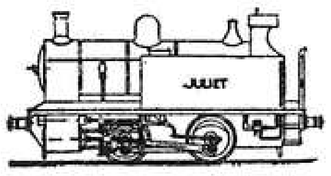

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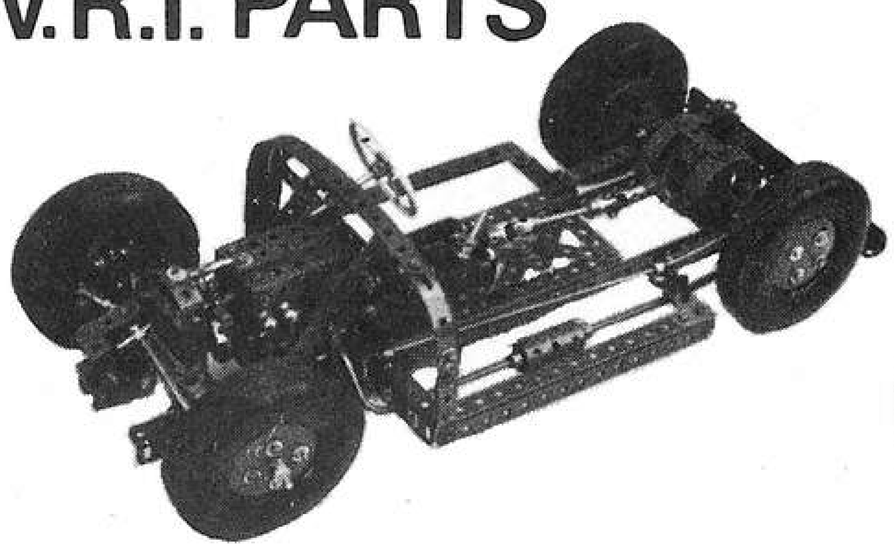

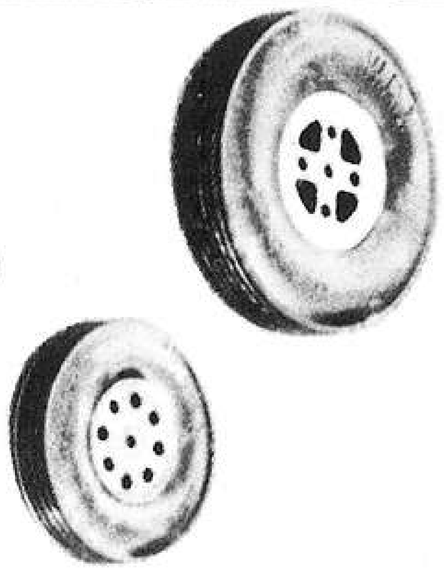

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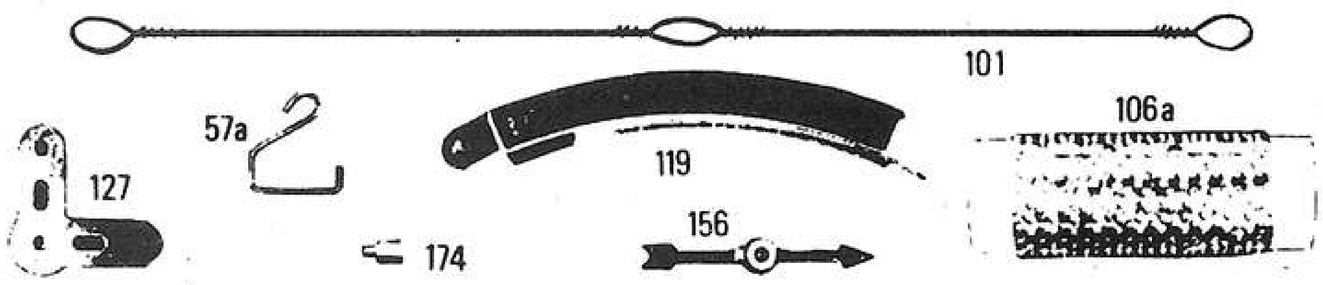

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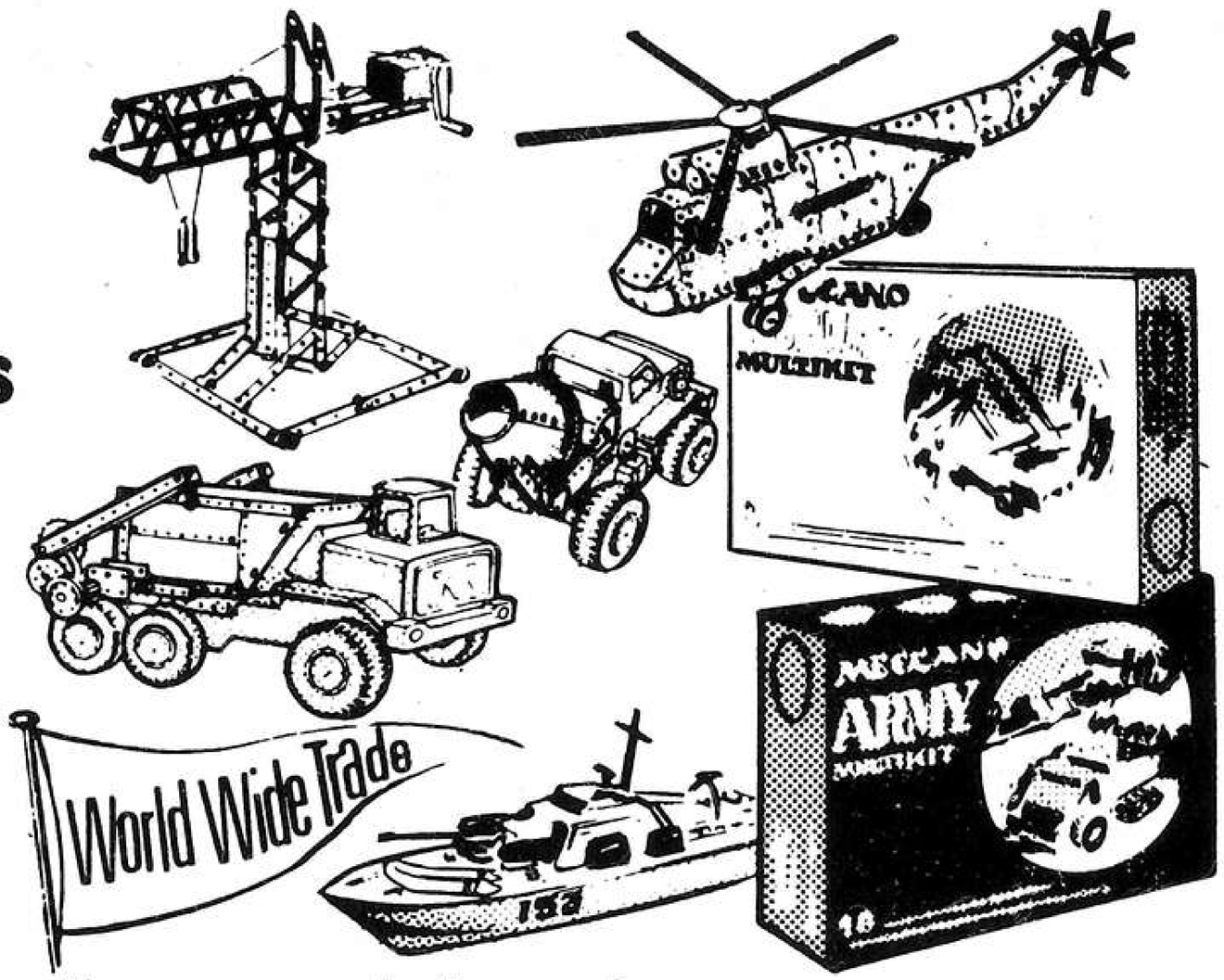

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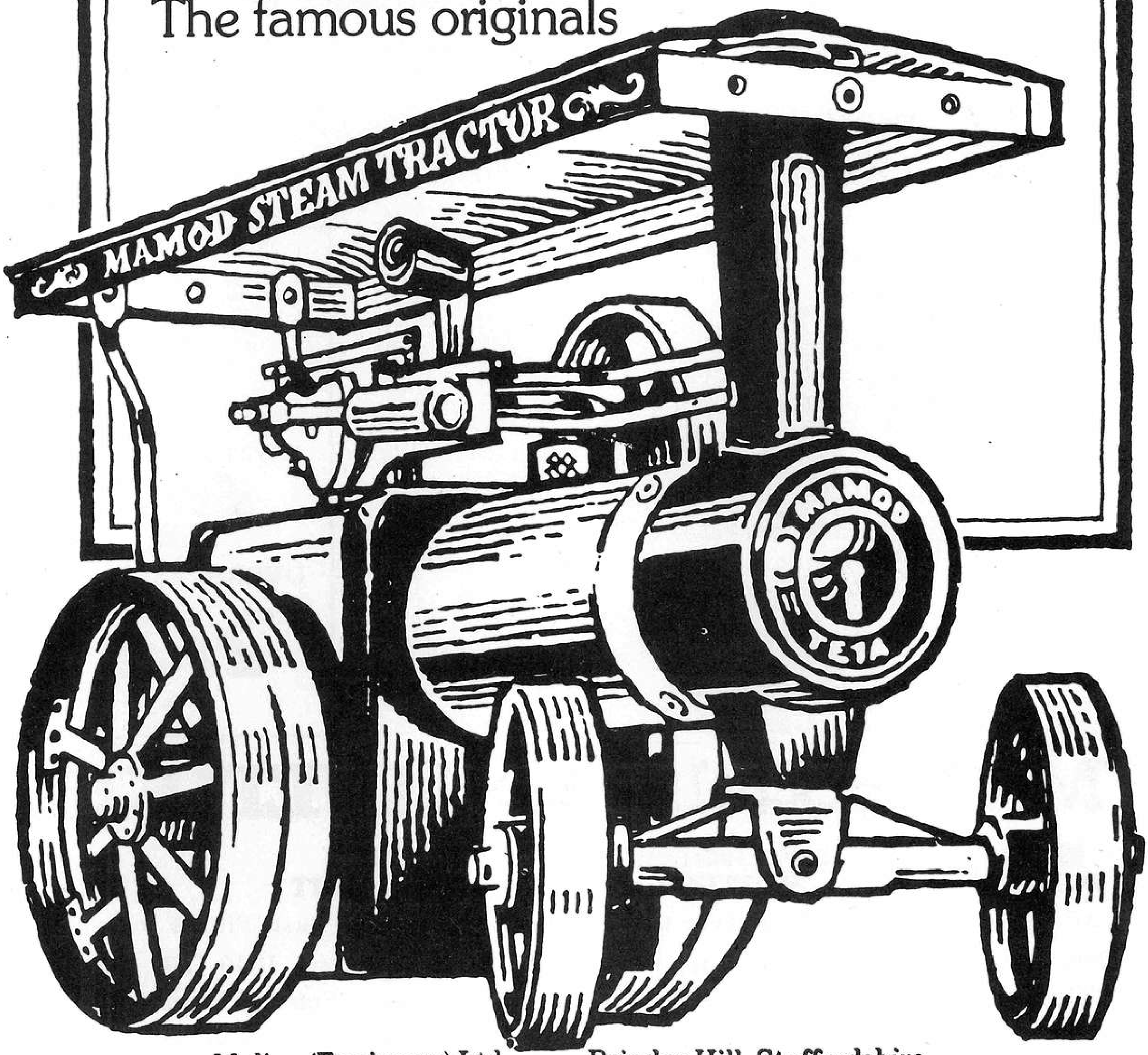

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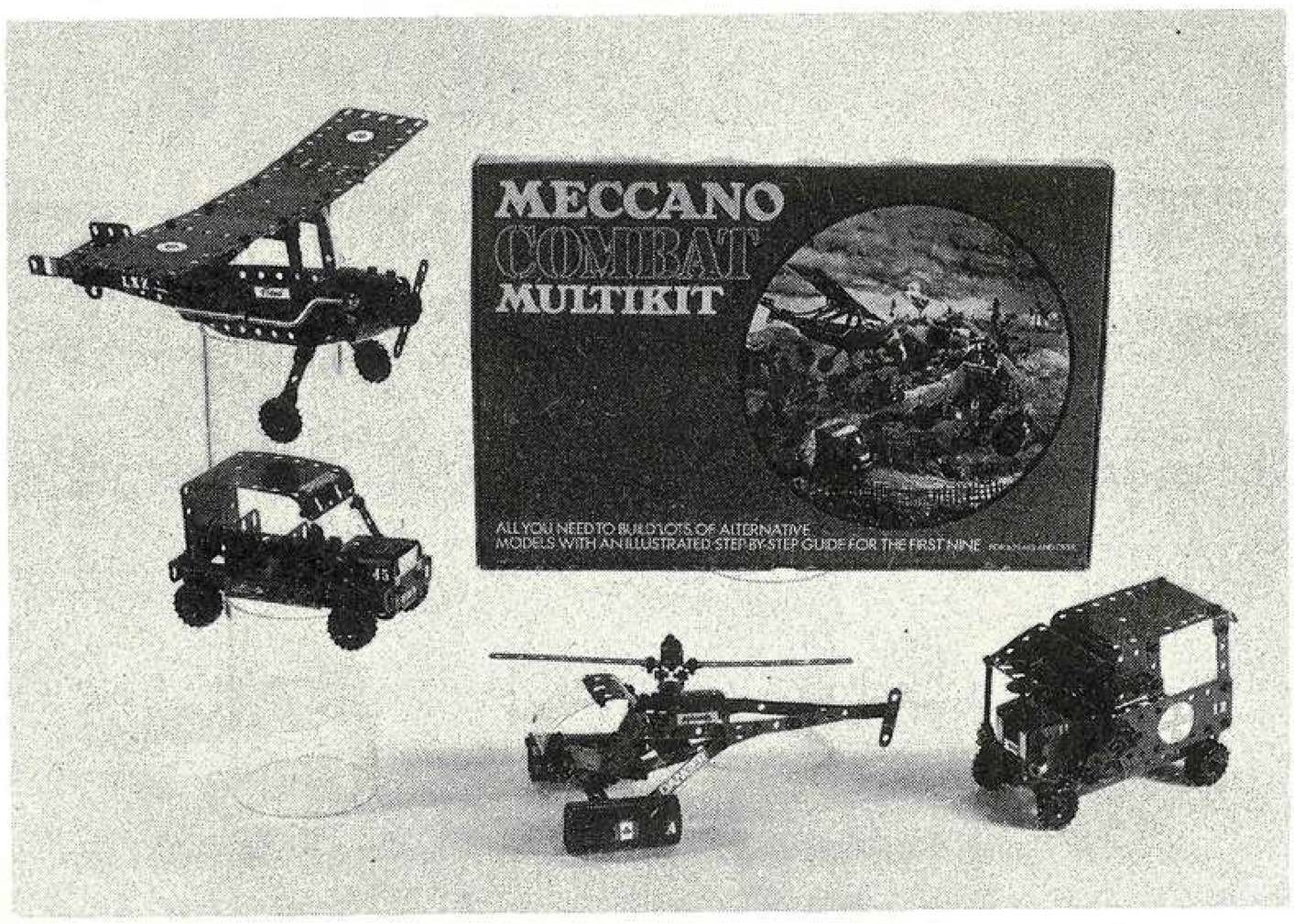
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